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THE TREATMENT OF TUBERCULOUS ABSCESS AND SINUS.

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THE tuberculous abscess, so frequently associated with tuberculous disease of bones and joints, is usually looked upon as a mere adjunct or complication of a serious condition and its treatment therefore is not considered carefully. As a matter of fact the abscess should be treated as the gravest element in the disease, because it is from this source for the most part that other organisms are introduced and the added infection is the cause of the largest percentage of the mortality in this disease. The tubercle bacillus is now looked upon as an organism of low virulence for the bulk of people with an average resistance, but as soon as the disease has added another infective organism, the outlook is changed and the mortality is tremendously increased. It is a fair estimate that well over 90% of all patients with pure tuberculous infection of bones or joints get well, with greater or less loss of function. It is equally true that a very large percentage of the persons with mixed infections do not recover. The mortality from the pure tuberculous infection is mostly from invasion of other tissues, usually the central nervous system or kidneys, whereas the sufferers from mixed infections die of amyloid disease of the abdominal viscera or from exhaustion from long continued suppuration.

In a paper before the American Orthopedic Association in 1901 the writer made the statement that no case of amyloid disease had ever been seen with a simple tuberculous infection and at that time it was a common condition due to the prevalence of mixed infection from faulty methods of dealing with tuberculous abscesses. From a wide experience since that time the statement has been proven true and now in a very large clinic it is quite rare to find amyloid disease, due undoubtedly to the fact that every precaution is exercised to prevent mixed infections.

In most text-books at the present time very scant instructions are given as to the method of caring for tuberculous abscesses and the dangers of mixed infections are nowhere emphasized sufficiently. The method of dealing with septic abscesses, on the other hand, is adequately stressed and the average young practitioner makes the mistake of treating both alike, with very serious detriment to the tuberculous

patient. In 1890 Mr. Watson Cheyne recommended the complete excision of the abscess in tuberculous bone disease. This would be an ideal method if it were generally applicable. Unfortunately its use is very limited and has never been considered of real value in dealing with the problem in a large way.

Expectant Treatment.

It is urged that the abscess is an extension from a primary bone focus and as the disease is progressive, the abscess will recur if the contents are removed. This is only partially true. The abscess developes by the caseation and liquefaction of a tuberculous focus in bone and as the degenerative process spreads in the bone, this liquefied material breaks through and extends into the soft tissues. It extends in the line of least resistance and is known to do so for great distances from the primary focus. As it continues to enlarge, almost the entire contents are broken down *débris* of bone and invaded soft tissues and the wall is a granulation wall, the so-called "pyogenic membrane" of earlier writers. This granulation wall varies in thickness, but in it is found the active tuberculous process. Numerous pathological tubercles can be demonstrated and here the tubercle bacilli are found in abundance. The liquid contents of the abscess contain in many instances no bacilli or at any rate very few. The expectant treatment is really a patient waiting to observe the progress of the abscess under careful and efficient treatment which is especially directed to the treatment of the local focus. In a fairly large number of cases the abscess will recede rather than progress under these circumstances.

In the mind of the writer the efficient treatment of the local condition means recumbency with protection from movement as largely as possible and entire protection from weight bearing during the active stage. This means twelve to eighteen months on a frame or splint in the case of the spine or hip disease and a correspondingly shorter period in the case of the knee or smaller joints. The general treatment of the patient consists in careful and abundant nourishment of an easily assimilated kind with a free administration of fruits and green vegetables, good hygienic surroundings and heliotherapy. Even in a vigorous climate exposure of the patient to the sun's rays after the plan of Rollier can be carried out for at least six months of the year and the mercury quartz lamp is found to be a useful adjunct during the extreme winter months. If the abscess progresses steadily in spite of careful treatment and gradually works closer to the surface, it is questionable whether it should be left alone longer. If left, it will gradually invade the skin and this tissue will become tuberculous and the abscess may become infected with skin organisms, chiefly staphylococci, from the sweat glands which harbour them. The granulation layer formed on the under surface is undoubtedly a partial safeguard and the skin may break through and the abscess contents be discharged without mixed infection of the cavity.

Aspiration.

If it is decided that in such a progressive abscess interference is necessary, aspiration is often considered the safest means of treatment. There are several difficulties which will be encountered. First the contents of nearly all such abscesses contain in addition to the "whey" or definitely liquid portion a fairly large proportion of "curd" or semi-solid *débris* which will not pass through even a very large bore aspirator. Hence it is found that repeated attempts at aspiration fail because of plugging of the aspirator needle. Again, even if partially successful and the tension of the abscess is relieved at least for a time, there is a real danger from withdrawal of the needle that tuberculous material will be lodged in the track and a real tuberculous sinus result. This is frequently the case if the needle is plunged into the abscess in its most prominent and usually thinnest part; it is sometimes prevented by introducing the needle obliquely from a distance, penetrating a fairly thick section of skin and muscle tissue before reaching the abscess cavity. There is also a further difficulty in the location of some of the abscesses and it often entails a degree of courage bordering on foolhardiness to attempt to aspirate a psoas abscess under certain conditions. After all these factors have been considered, however, there is no doubt that a certain few cases of abscess may be treated successfully in this manner.

Aspiration and Injection of Antiseptics.

In the view of the writer the added injection of any antiseptics after partial aspiration of an abscess is of very doubtful value theoretically. It does not sound reasonable to expect any effect on the protected organisms of the granulation wall of an abscess cavity when antiseptics are injected into and diluted by the fluid contents of such an abscess. In some clinics the injection of naphthol or of iodoform and glycerine has been used extensively and the results on the whole are not as good as by the expectant method. Iodoform has been demonstrated of very little value in local applications to tuberculous processes and when glycerine is added it destroys what little value the iodoform possessed. Since the glycerine is hygroscopic, serum rapidly fills the cavity which was partially evacuated by aspiration and the danger of sinus formation along the track of the needle is increased. It is our opinion, therefore, that the injection method has no place in the treatment of these abscesses.

Incision.

It is so easy for the practitioner to fall into the error of thinking that tuberculous abscesses should be dealt with by the recognized method of treatment of "septic" abscesses, that is they should be opened at as early a date as possible and so as to insure efficient drainage in the most dependent part. This method of early incision and dependent drainage, particularly when a rubber tube or similar drainage method is used, is in the great majority of cases the most likely to lead to disastrous results. Unless the incision is made under the strictest aseptic precautions and the drainage material removed within forty-eight hours, secondary infection is almost sure to supervene.

Incision with Closure of the Wound.

While the writer was serving an eighteen months' interneship in one of the New York hospitals he was impressed with the very large percentage of cases with tuberculous abscess which became secondarily infected and the dreadful emaciation and gradual exhaustion which followed. Amyloid changes in the abdominal viscera were also of frequent occurrence. A visit during the next year to many European clinics further impressed this fact, as similar conditions were found there. In 1901 at the American Orthopedic Association the writer presented a short paper on the treatment of tuberculous abscesses by incision, cleaning out the granulation wall and closure. The paper was based on thirty patients so treated with primary healing in over 90% and no secondary infections. This paper created a good deal of criticism and showed that the older members especially had become so accustomed to the then existing condition that they accepted it as a matter of course. In 1907 at the meeting of the British Medical Association in Toronto a further report was made of cases treated up to that time with similar findings. After an experience of about twenty-five years as a member of the staff and for many years as Surgeon-in-Chief of the Hospital for Sick Children in Toronto, the writer looks back with some pride at the changed conditions in regard to tuberculous bone diseases, especially with regard to the very small number of cases of mixed infections. At the present time it is rare to find a patient with mixed infection in this clinic and amyloid disease is practically unknown. With this change it is also noted that very few cases of tuberculous meningitis are found following bone tuberculosis.

The routine technique followed for many years with regard to tuberculous abscess is to follow the case expectantly, treating the bone lesion and carefully watching the abscess. In a fairly large and gradually increasing proportion of cases the abscess subsides and in process of time becomes a thickened or calcified mass in the region where the abscess was present. X ray examination will often verify these findings. As in tuberculous tissues anywhere in the body the cure of the lesion is by a substitution of fibrous tissue or calcareous deposits, it is assumed that in the case of the abscess a real cure has resulted.

Surgical interference is advised in the cases where in spite of careful treatment of the original bone lesion the abscess gradually increases in size and ultimately threatens to invade the skin. After careful preliminary preparation of the skin an incision is made large enough to explore the cavity thoroughly. This incision is made in the least dependent area and through healthy tissues, often at quite a distance from the abscess cavity so as to insure a thick layer of muscular tissue between the abscess cavity and the skin and to prevent the filtering down of any remaining tuberculous organisms by gravity into the line of the incision which would result in a tuberculous track or sinus. As soon as the cavity is opened, a "sucker" is inserted and the contents aspirated to prevent soiling of the wound as far as possible. The cavity is then opened widely, carefully retracted and the entire granulation wall cleaned out with gauze sponges or iodoform gauze. The bleeding is controlled by pressure and the entire cavity is swabbed out with 2½% solution of iodine. The incision is then thoroughly mopped with alcohol to clear out any *débris* and the deep structures brought together with interrupted catgut sutures. The fascia is closed with continuous catgut suture and the skin closed with horsehair. Pressure is maintained where possible during closure of the wound to prevent filling with serum and a heavy pad or dressing applied with an elastic flannel bandage. The great majority of these wounds heal by primary union. In a few instances a second operation is found necessary and in a few cases aspiration is resorted to if the cavity rapidly fills up and endangers the suture line. In most cases there is a moderate refilling of the cavity with serum, but this is soon absorbed. After these many years of experience it has not been found that this radical cleaning out results in spread of tuberculous disease to other distant tissues.

This method has been practised in many other clinics since first advocated by the writer and in some the results have not been nearly so satisfactory as in our own clinic. Investigation has shown that the fault has been for the most part due to careless technique, particularly in the failure to make the incision through as wide an area of healthy muscular tissue as possible, to place a wide barrier between the cavity and the skin surface. This method is still recommended as the method of choice in dealing with this troublesome complication.

Sinuses.

The treatment of tuberculous sinuses is still a matter of controversy. There are no doubt a large number of cases of abscesses treated expectantly, which ultimately rupture and discharge their contents and do not become infected. This is especially true in some of the institutions where heliotherapy is the chief or sole method of treatment of tuberculous disease. It was the writer's privilege a short time ago to visit such an institution and it was rather a surprise to see so many patients with sinus and apparently none of them more than superficially infected. The method adopted for treatment of these conditions in our clinic is first to prohibit absolutely any medical officer or nurse to put anything into the sinus; no probe or drainage tube or attempt at irrigation or swabbing of the sinus is permitted. In the second place dressings are done as infrequently as possible and at the same time the area is kept clean. When dressings are done, the surface is wiped off with alcohol and a fresh dressing applied, preferably of some antiseptic gauze such as the double cyanide of mercury and zinc.

After a fair trial of many methods of dealing with such sinuses, as irrigation with saline solution, Dakin's solution, swabbing with zinc chloride solution or carbolic acid, these have all been abandoned

and the treatment as above noted has proven the most efficient. In the cases where mixed infection has occurred, adequate dependent drainage is essential and in superficial lesions such as are found in the extremities, many of these can be cleared up in time. In the psoas abscesses with mixed infection, however, the writer has become definitely pessimistic. The difficulties of adequate drainage are so great that very few of the patients will recover and the mortality is greatest among them.

DEFORMITIES FOLLOWING UPON AN ATTACK OF INFANTILE PARALYSIS.

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While it is not possible to deal with all forms of deformities arising from anterior poliomyelitis, I will take some of the more common varieties. Dealing first with those of the foot we may have all the classical types under the heading of talipes: *talipes calcaneous, talipes varus, talipes valgus* and *talipes cavus,* either singly or in combination, the most frequent being *talipes equino-cavus* with or without *varus* and *talipes calcaneo-valgus.*

Talipes Equinus.

Talipes equinus is due to a permanent plantar flexion with a corresponding diminution of dorsal flexion. In order to correct it we must obtain a clear idea of the anatomical conditions of the deformity. It is generally attributed to a contracted *tendo Achillis* with a consequent more or less vertical position of the *os calcis* and so the surgeon sets about to lengthen the tendon to overcome the deformity.

Figure I.

Figure II.

In Figure I. the undissected foot would naturally give the impression that such a procedure would rectify the deformity and give a useful foot.

In Figure II. which is from a photograph of a complete dissection of Figure I., it is clearly seen that by far the larger part of the deformity takes place at the mediotarsal joint.

The postero-anterior axis of the *os calcis* instead of being directed forwards and slightly upwards as in a normal foot, is in this specimen directed forwards and somewhat downwards owing to a slight elevation of the posterior end of the *os calcis.*

To rectify the deformity the efforts of the surgeon must be directed first to overcome the dropping of the anterior part of the foot at the mediotarsal joints and contiguous joints distal to it. This is accomplished by dealing drastically with the plantar fascia. In order to do this thoroughly we must first substitute the ordinary anatomical description of the plantar fascia for something more complete. It is not merely a broad band of fibrous tissue passing forward along the foot from its attachment to the *os calcis.* This is only its superficial portion; passing down between the muscles we have strong prolongations which are attached to the various tarsal ligaments connected with the plantar surface of the joints and bones of the foot and also attached to the long and short plantar ligaments. In fact for our present purpose we must consider these two ligaments as intimately connected with the plantar fascia.

All of this large mass of fibrous tissue in *talipes equinus* is not only contracted, but is very much thickened. It is therefore obvious that although free division of the superficial portion which is usually described as the plantar fascia, may be performed, it will have no practical effect on the deeper portion of the contracted mass and will therefore have little effect upon the reduction of the deformity.

The Operation for Talipes Equinus.

Make a curved incision from the head of the first metatarsal bone along the inner border of the bone to a point just below the tip of the inner malleolus (see Figure III.). Dissect the skin and superficial fascia from this incision towards the plantar surface of the foot.

Define the inner border of the superficial plantar fascia at about the level of the navicular-cuneiform joint and separate it from its deep attachments along its whole length. Proceed across the foot to the outer border. In mild cases this portion of the plantar fascia can be left undivided but in severe cases it will require thorough division transversely. It should be divided close to its attachment to the

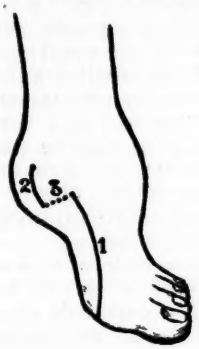

FIGURE III.
Showing incisions in skin.
1. Primary incision for division of superficial and deep plantar fascia.
2. Incision for releasing structures attached to *os calcis*.
3. Dotted line incision referred to under heading "(v.)."

os calcis. Next strip the *abductor hallucis* from its attachments to the first metarsal bone and the fibrous tissue beyond. Insert a broad elevator and pull the muscle *et cetera* outwards, dividing the contracted deep portions of the plantar fascia which can be readily seen and felt. It is necessary to work close to the bone while passing round the first metatarsal bone and proceeding across the foot. Another elevator is inserted posterior to the former and the same procedure adopted until the whole of the deep contracted fascia is divided. Free division of the long and short plantar ligaments is now carried out; care being taken not to injure the sheath of the *peroneus longus* as it passes across to the inner side.

We have now divided plantar fascia thoroughly, the muscles, nerves and chief vessels being untouched and lying between the two planes in which the incisions have been made.

In the minor cases we can now unfold the plantar flexion of the foot anterior to the mediotarsal joint and place it in its proper relation to the *os calcis*. The surgeon must now determine whether any resistance that may be offered, is due to contraction of the *tendo Achillis* or whether it may be found, as it often will be in one or more of the following structures:

(i.) The skin over the inner surface of the *os calcis*.

(ii.) The deeper structures beneath this skin and those attached to the anterior margin of the posterior surface of the *os calcis*.

(iii.) The contracted joint capsules on the plantar surface of inner border of the foot.

The skin of the inner surface of the *os calcis* and the deeper structures beneath the skin and those attached to the anterior margin of the *os calcis* are not dealt with separately as incision of the skin is never sufficient by itself. The incision is made as in Figure III. down to the bone and through a free incision of skin the surgeon elevates with a periosteal elevator all that broad, strong tissue which he will find. Then the elevator is passed round the *os calcis* to its outer surface. Everything is stripped freely from the bone and finally all the structures except the skin are cut with a scalpel.

Before dealing with the contracted joint capsules on the plantar and inner border of the foot the surgeon must satisfy himself that the necessary infolding of the plantar reflexion is due to the contracted joint capsules and not to some strong fibrous tissue left undivided.

This fibrous tissue may be in one of three places:

(iv.) The ligaments attached to the *sustentaculum tali*.

(v.) The skin over the anterior part of the inner surface of the *os calcis* (see Figure III.).

(vi.) Contraction of the median portion of the deltoid ligament.

In dividing the fibrous tissue and ligaments in the neighbourhood of the *sustentaculum tali* we must be careful of the tendon of the *tibialis posticus* at its principal insertion.

In dealing with the skin over the anterior part of the inner surface of the *os calcis* an incision is made from the posterior end of the first incision to the anterior end of the second and if necessary the skin in every direction is freely undermined (see Figure III.).

In dividing the middle portion of the deltoid ligament care must be taken to avoid the tendon of the *tibialis posticus* as it winds beneath the tip of the malleolus.

This last procedure will be required only in very severe types such as is shown in Figure I..

The division of the contracted joint capsules will very rarely be necessary, in fact formerly I am sure it was done when it was not necessary. The more complete the division of the other structures, the less often will it be required.

The last stage of the operation is a subcutaneous Z shaped division of the *tendo Achillis*. If the surgeon is not experienced in this method he should perform it with the patient turned over in the prone position, for it makes some difference if the incisions in the tendon are not made exactly in the middle line (see Figure IV.).

The foot is now dorsiflexed to an angle of 80° at least. Considerable force may be required, but in my opinion no mechanical appliance should be used. I agree with Sayre's teaching that the hand is the best instrument. If resistance is too great

FIGURE IV.

A. The upper point of entrance where the tendon is divided inwards.
B. The lower point of entrance where the tendon is divided outwards.

to be overcome, some contracted structure has been left undivided. "It is better to cut too much than tear too much."

The incisions are sewn up and the foot put up on a back splint and footpiece in the rectified position for three days. The surgeon must use his experience to decide whether it would be wise to take off all retaining apparatus or to put the foot up in plaster. The more thorough the operation, the less need there will be for plaster.

FIGURE V.

A partially dissected foot of talipes equinus with severe cavus. The contracted tissues of the sole are well shown.

The patient should be encouraged to get out of bed on the third day and sit in a chair for half an hour and from then on to take more and more liberties. I like to get patients standing on the unprotected foot by the sixth day except in those cases in which the application of a light plaster is necessary to maintain the dorsal flexion. If a plaster be applied on removal of back splint and foot piece, the patient should be walking by the seventh day in the plaster.

Sometimes the wound gapes a little, but even so I prefer that to foregoing early movement.

The advantage of not applying plaster is that dorsal flexion can be applied and the patient encouraged to make active movements. If the patient cannot stand on his foot and dorsally flex it, he should be given a bandage to pull his foot into the proper angle. On no account must exercises be withheld, even if the plaster be applied the patient must stand on it and accustom himself to bear more and more weight.

In cases of *talipes equinus* it is seldom necessary to use steel supports or special boots. When the limb is shortened a cork sole should be inserted. This sole should be of the proper depth at the heel and should taper to the heads of the metatarsal bones.

Hæmorrhage very rarely gives any trouble; sometimes the artery to the fifth metatarso-phalangeal joint is divided and bleeds freely until grasped with a pair of forceps. When the internal plantar vessels are large, they may give momentary trouble, as they may be divided several times during the operation.

In no case of *talipes equinus*, however extreme, have I found it necessary to divide the skin on its plantar aspect and I have not yet incised the skin along the outer border of the foot. We are faced in these two positions with skin of low vitality and all incisions should be avoided.

ANTENATAL STUDY.[1]

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DEFINITION.

ANTENATAL study means the care of the pregnant woman from her conception until the commencement of her labour or to be more exact, the care of the pregnant woman from the time she comes under supervision until the onset of labour.

REASONS FOR ANTENATAL CARE.

In Australia it may be said that one mother loses her life in every two hundred confinements. The average number in a family in Australia is two and a half. To put the position in another way one

[1] Being a lecture delivered during the winter course of the Melbourne Permanent Committee for Post-Graduate Study on June 2, 1925.

woman out of every hundred that have borne children, loses her life as a direct result of the confinement.

Out of every hundred children born, three are stillborn and three do not survive the first month.

Such is the problem of mortality.

The amount of morbidity, that is ill health and incapacity following as a result of childbirth is very difficult to assess.

Yet when it is considered that there are approximately one hundred and fifty gynæcological beds in the Melbourne metropolitan hospitals or about thirty more than the available obstetrical beds, some idea of the immensity of the problem can be estimated. Mortality and morbidity are closely related. If the mortality can be reduced, the morbidity will also undergo a considerable reduction.

The view that this branch of obstetrics will considerably diminish the attendant dangers of childbirth, is well expressed by Dame Janet Campbell. She states:

> Until antenatal supervision is accepted by patients and their advisers as the invariable duty of the professional attendant engaged for the confinement, we shall never make substantial progress toward the reduction of maternal death and injury. It is the key to success in any scheme of prevention and it must be insisted upon, until it is recognized as a necessary and integral part of the management of every confinement case.

To me there is an additional reason. In obstetrics care is the essence of the contract. The obstetrician who invariably does antenatal work, becomes imbued with the spirit of carefulness. In obstetrics carefulness counts more than skilfulness. We all have not the same manual dexterity, neither do we possess in equal degree that indefinable possession known as "brains," yet we all should have the same capacity for being careful with our patients.

I have divided this lecturette into two parts: (i.) Antenatal advice given to the patient; (ii.) antenatal routine examinations.

Antenatal Advice.

Specimens of the antenatal card of the Women's Hospital and specimens of antenatal card used in private practice will be distributed this evening. These cards, of course, do not cover the whole field, nevertheless they give the patients some idea of how to conduct themselves throughout their pregnancies.

Antenatal Routine Examinations.

I have placed routine antenatal examinations under three headings: Preliminary examination at the time of engagement, routine examinations of the urine, secondary examinations (conducted at fixed times before the expected date).

Preliminary Examination.

General Consideration.

The age of the patient should be obtained and an inquiry into her general health instituted, in order to ascertain whether she is fit to go through the strain and stress of pregnancy, labour and lactation and whether she requires any special attention to enable her to do so. If there is any suspicion of organic disease, she should be examined. In all cases the urine should be examined at this time and if possible a record of her blood pressure should be made.

Previous Obstetrical History.

An accurate history should be obtained from the patient. The special points are the nature of the previous labours, whether premature, full time or overtime, the weight of the child, whether stillborn, whether neonatal death occurred or whether still alive. Indeed any obstetrical complication should be noted.

Some complications are likely to recur, others are not. Of course a first pregnancy is fraught with much greater difficulties than subsequent ones and because the patient has had some dystocia with her first, it is quite wrong to assume that she is certain to have some similar happening with her second. Nevertheless forewarned is forearmed and careful consideration must be given to her history.

Such complications as large babies, "overdue" labours are likely to recur. A true toxæmic albuminuria is not very likely to recur; whereas an albuminuria due to nephritis is practically certain to repeat itself.

An adherent placenta (I do not mean merely a retained placenta) is very likely to appear again and a *post partum* hæmorrhage, not due to any mismanagement of the third stage of labour, will very likely once more trouble the obstetrician unless some prophylactic measures are taken.

Pelvic Measurements and Examination.

With regard to external pelvic measurements of *primiparæ* and *multiparæ* with previous dystocia I usually take them at this time.

They are made quite easily with a Collin's pelvimeter and will only take a very few minutes of the obstetrician's time.

The measurements taken with their approximate distances are as follows:

Interspinous 25 centimetres (10 inches).
External conjugate 18 to 20 centimetres ($7\frac{1}{2}$ to 8 inches).
Interchristal 27.5 centimetres (11 inches).
Intertrochanteric 30 centimetres (12 inches).

Any departure from these measurements is noted and if necessary at this time it may be insisted that the patient should be confined in hospital.

A pelvic examination at this time is often of not very much value in establishing the internal measurements. The average *primipara* is very difficult to examine and it is in many cases extremely hard to recognize the promontory of the sacrum. If there is any gross deficiency in the external measurements, an examination under an anæsthetic can be suggested.

However, a pelvic examination is of value in diagnosing any malposition of the uterus or the presence of pelvic tumours and incidentally confirming the diagnosis of pregnancy.

With regard to the interpretation of these measurements I should ask you not to come to any conclusion too hurriedly. The mechanism of birth is dependent on many factors.

The first is the relation between the passages and the passenger. The pelvis can be measured fairly accurately, the size of the child cannot, except by judgement.

The second is the position in which the child presents; though, of course, it must be remembered that in many cases of malpresentation the primary factor is some disproportion.

The third is the readiness with which moulding occurs. Some babies have very hard heads and moulding is not very great.

The fourth is the strength and driving force of the uterine contractions.

You will be surprised how strong uterine contractions will force a head that is well moulded, through a pelvis in which a considerable amount of disproportion is present.

Thus you notice the pelvic measurements represent only one factor concerned; therefore do not give them undue prominence. Any deficiency in the measurements must be regarded merely as an indication that there may be some dystocia during the labour.

The indication is to insure that arrangements are made for the delivery to be conducted under suitable conditions. Personally I think that it is wrong in the very large proportion of *primiparæ* to perform a Cæsarean without a proper "test of labour" being given (including a few hours' labour after the rupture of membranes), except in those cases of elderly *primiparæ* when the child assumes an overwhelming importance.

You may note the omission of any mention of measurements of the outlet. Obstruction at the outlet of the bony pelvis is very uncommon unless associated with obstruction at the inlet. In fact some obstetricians believe that it never occurs. You will find in practically every case that once the head gets past the inlet, there is sufficient moulding to get it through the outlet, though the uterus may be too exhausted to carry on the work and the patient may require an instrumental delivery.

Routine Examination of the Urine.

The value of regular routine examination of the urine cannot be overestimated. A specimen should be examined when the patient first engages her doctor and after that every month until the seventh month and then every fortnight and also at any time on the appearance of the preeclamptic symptoms (mentioned on the patient's card).

It is not sufficient to test the urine only if the patient feels unwell or if she has any signs apparent to the practitioner. It is surprising the number of patients having incipient toxæmia, with definite albuminuria, who do not show any signs or symptoms whatsoever.

A few points about the routine examination are worth noting.

In some cases of severe toxæmias you will find an overwhelming proportion of globulins present and but very little albumin. If the urine of these patients is boiled, it appears almost clear, yet after strong acidification you may get a deposit amounting to one-third or even one-half of the total test tube contents.

Of course it is necessary to distinguish between the albuminuria of toxæmia and that associated with cystitis or pyelitis, if necessary by microscopical examination after catheterization.

Reducing substances are occasionally found, often transient and not of much moment. If they are present in large quantities and persistent, the patient needs further examination by a specialist.

During the later months in the presence of symptoms such as dyspnœa, headache, tachycardia which cannot be properly accounted for, the urine should be tested for acetone which in some cases is the precursor of one of the severest forms of toxæmia associated with uncontrollable vomiting, tachycardia and rapid collapse of the patient.

The quantity of urine passed is very important, especially in patients who are known to have nephritis. An average patient can easily measure the daily amount of urine excreted.

Many more complicated and interesting urinary investigations can be made. I have refrained purposely from going more deeply into this part of the subject as it would be getting out of the reach of the average practitioner. Very little will be missed if the examinations suggested are carried out.

At this stage I propose to make a short digression and to mention some of the conditions which may arise during pregnancy and come under the notice of the obstetrician and which can be treated without any interference on the part of the attendant.

Other conditions such as toxæmias, pyelitis, heart and lung disease, the *ante partum* hæmorrhages will be dealt with by subsequent lecturers. Many minor ailments, such as pruritus, neuritis, headaches, indigestion, I have omitted, not because of their amenability to treatment, but because my time is limited.

Repeated, Unexplainable Miscarriages.

I shall now refer to the apparently healthy woman who makes a "habit" of miscarrying. No organic disease is present, no malposition of the uterus; the patient's serum does not react to the Wassermann test. *Corpus luteum* extract helps some, the old prescription of potassium chlorate helps others. Antisyphilitic treatment or curettage and disinfection of uterus helps others, but unfortunately there is no specific. The patient often has to be confined to bed for long periods. These cases are the most exasperating types that one meets in obstetrical work.

Syphilis.

I would refer you to the very excellent paper on familial syphilis by Dr. Robert Fowler in THE MEDICAL JOURNAL OF AUSTRALIA of December 24, 1921. The ideal would be, of course, to carry out a Wassermann test in all patients; unfortunately it is impossible in private practice and very difficult in hospital practice. In a series of five hundred unselected patients at the Women's Hospital 10% yielded positive Wassermann reactions. In a similar

series about ten years previously the same proportion was obtained. The latency of the disease is remarkable. There were no signs or symptoms in 50% of the patients and they had no idea that they were suffering from the disease. You will all miss cases in your private practice. It is well to remember that a full-time macerated child, in the absence of toxæmia or trauma is very suggestive of syphilis and a Wassermann test should be made on all patients giving that history.

If this disease is discovered during pregnancy, vogorous antisyphilitic treatment with "Novarseno-Billon" or equivalent products should be used, though Fowler has pointed out the difficulty of causing the patient's serum to lose the power to react to the Wassermann test during pregnancy.

The examination of the fœtal blood does not present the same difficulties. Were sufficient funds and facilities available, the blood of all babies born in the public hospitals could be tested. The economic value of the children saved from neonatal death, perpetual ill-health and mental deficiency would repay in a few years a thousand-fold the money expended.

Gonorrhœa.

Any copious purulent discharge during pregnancy should be investigated and the gonococcus sought for by microscopical examination. Here again treatment is difficult, but nevertheless should be applied with persistence. Topical applications to the urethra, cervix and vagina should be made. In my opinion the gonococcus accounts for much more puerperal morbidity than mortality.

Secondary Examination.

Secondary examinations are extremely important and should never be omitted. If the patient is considered to be normal at the preliminary examination, this one is made four weeks before term; if abnormal six weeks before.

There are two considerations: (i.) Reinvestigation of patient's physical condition and (ii.) abdominal palpation to determine the size and condition of the uterus, the lie of the fœtus and if the patient is a *primipara,* to see if the head is engaged; if a *primipara* with previous dystocia, to see if the head can be pushed into the pelvis.

Size and Condition of Uterus.

The practitioner should ascertain whether the size of the uterus is coincident with the period of pregnancy. He should note any abnormality such as abnormal distension or laxity. He should try to estimate the size of the child.

Lie of the Child.

If there is a breech presentation, I convert it into a vertex by external version. This is usually easy in a *multipara;* but sometimes difficult in a *primipara,* but an anæsthetic may be used. It is easier to turn six weeks before term than four weeks and it is sometimes extremely difficult just before or at the onset of labour. In my experience there has been no difficulty in keeping the fœtus in this position provided that the patient stays in bed for a few days and a fairly tight binder is worn.

What has caused me apprehension is the fact that in a *primipara* the head does not settle down into the pelvis as usual and on more occasions than one I have wondered if I had made an error in assessing the proportion between the head and the pelvis.

All obstetricians are not agreed upon the advisability of this manœuvre. A. A. Ridler, of Sydney, in THE MEDICAL JOURNAL OF AUSTRALIA of October 18, 1924, states that he has seen abnormal presentations including prolapse of the cord resulting from this manœuvre and consequently does not advise this manipulation. He suggests finding the cause of the breech presentation and attempting to correct that.

I recently have seen one rather startling case with my colleague, Dr. J. S. Green, at the Women's Hospital. This patient was discovered to have a breech presentation at seven months. It was converted into a vertex; but the malpresentation recurred twice. When finally she came into labour she had a transverse presentation. She was delivered of a 3,400 gramme (seven and a half pound) child (resuscitated with considerable difficulty) by internal version and forceps on the after-coming head. The child died on the ninth day.

However, as I have personally on many occasions experienced the great difficulty of delivering full-time babies presenting by the breech in *primiparæ,* I shall still continue to perform this manipulation in such cases as I discover to have breech presentations.

Engagement of the Head.

The patient with deficient measurements is seen six weeks before her expected date. An attempt is made by palpation to estimate the size of the fœtus and the proportion between the passages and the passenger, if necessary by Munro Kerr's method under an anæsthetic. If the head can be pushed into the pelvis, there is no need to interfere; if there is any difficulty, the question of induction of labour may be considered.

The ordinary patient is examined one month before. If the head in a *primipara* is not engaged the reason should be sought for.

Any of the following causes may be operating: (i.) disproportion, (ii.) malpresentation, notably occipito-posterior position, (iii.) excess of *liquor amnii,* (iv.) abnormal laxity of the uterus (chiefly applies to *multiparæ*), (v.) low inplantation of the placenta, (vi.) tumours obstructing the pelvis.

If the head is not engaged, the patient requires careful examination to find out the cause. The fœtal size must be estimated, the pelvis remeasured and a vaginal examination usually under an anæsthetic must be performed.

The promontory of the sacrum must be sought for and an attempt is made to test whether the head can be pushed into the pelvis. Unless the obstetrician is reasonably satisfied that the mother can be delivered in her own home without a great

deal of difficulty, he should insist that the confinement take place in some suitable maternity hospital. The diagnosis of contracted pelvis by X rays is not as yet perfectly satisfactory. Multiple pregnancy is easily diagnosible by X rays.

At this stage I would like to call attention to the location of the anterior shoulder. This has been emphasized by Dr. J. C. Windeyer, of Sydney. It is of great value in estimating the actual amount of engagement of the head and of still more value in following the actual descent of the head during labour.

Before engagement the anterior shoulder is ten to twelve centimetres (four to five inches) above the *symphysis pubis;* when the head is properly engaged it is only about five centimetres (two inches).

If the examination at this period is satisfactory, we must just wait patiently until the expected date has arrived. Those abnormalities amenable to treatment have been corrected; adequate provision has been made for any others whose possible appearance has been anticipated and the outcome of the labour may be awaited with confidence.

"Prophylactic Induction of Labour" (Barrington).

Unfortunately there is a tendency for some women (especially those with some degree of disproportion) to go "overtime." The fœtus increases considerably in weight if pregnancy is allowed to continue and for these cases Barrington lays great stress on what he describes as the "prophylactic induction of labour."

Watson (quoted in Whitridge William's text book of "Obstetrics") suggests the following procedure:

At six o'clock in the evening thirty mils (one ounce) of castor oil are given; this is followed at seven o'clock by 0.6 gramme (ten grains) of quinine; at eight o'clock a large soap sud enema is injected; at nine o'clock a second dose and at midnight a third dose of 0.6 gramme of quinine are given.

If pains have not supervened by nine o'clock the next morning 0.5 cubic centimetre of pituitrin is given hypodermically and repeated each half-hour until labour sets in or until six doses have been given.

With *multiparæ* it is often sufficient to insert one or two fingers into the cervix and to separate the membranes as far as possible.

The labour has now started and the patient can be left to the care of subsequent lecturers.

Objections to Antenatal Care.

The only possible objection that can be raised to the performance of routine antenatal examination is the feelings of the patient. Personally I am quite convinced from my experience both in private and hospital practice that not only do the patients not resent antenatal examination, but that they actually appreciate the care that is being taken.

The growth of the antenatal department at the Women's Hospital may be quoted. It was commenced in 1917. During the year 1918 one hundred and fifty attendances were recorded. The attendances have gradually increased until at present the clinic is held four days a week, with a total of almost three thousand five hundred attendances or approximately one thousand five hundred patients during the year. Evidently our hospital patients have no objections. About one half of the women who are confined in the Women's Hospital, have attended the antenatal clinic. About one fifth of the patients of the antenatal clinic have their babies away from the Women's Hospital.

RESULTS.

Maternal Mortality.

Women are still dying from the common disorders of childbirth. As mentioned previously the death rate is one in two hundred confinements. The chief causes of death are sepsis (33%), toxæmias (25%), hæmorrhages (17%).

These three conditions account for approximately 75% of the total maternal death rate. With antenatal care the incidence of sepsis should be reduced by at least one half (difficult cases conducted under good conditions, fewer "failed forceps" operations). Deaths from toxæmia should be almost entirely eliminated and the fatalities from hæmorrhage should be considerably reduced and the total maternal death rate should be cut down by about a half by antenatal care alone.

Fœtal Mortality.

The commonest causes of fœtal still-birth are prematurity, syphilis and birth injuries and these conditions account largely also for the neonatal deaths.

Undoubtedly antenatal care would reduce this mortality considerably. Prematurity is frequently associated with an untreated toxæmia or syphilis. Birth injuries in many cases could be obviated by the antenatal recognition of contracted pelvis and malpresentations.

Hospital Results.

As far as can be ascertained of all the patients (approximately 3,500) who have attended the antenatal clinic at the Women's Hospital and have been subsequently confined in the Women's Hospital, there have been only three deaths (one from influenzal broncho-pneumonia, one after Cæsarean section for contracted pelvis and one from collapse after delivery).

Figures equally good are obtained at the Queen Victoria Hospital where the vast majority of the confinement patients have previously attended the antenatal clinic. I understand there has been one death out of their last seven hundred women confined. Only three patients who have attended the Women's Hospital antenatal clinic have had fits; none of these died.

Results in Private Practice.

I do not intend to go into details of the results in my private practice except to say that they have amply repaid me for the time and trouble expended.

Indeed the mere freedom from worry which results in the accurate knowledge of the patient's

condition and the ability to give a fairly accurate prognosis of the course of the labour ascertained by antenatal care, have proved of immense benefit to myself.

Warning.

Pregnancy and labour are normal conditions. The object of all antenatal treatment in an abnormal case is to remove the abnormality as far as possible and then to allow the normal state to continue. Remember that 90% of your obstetrical cases will be perfectly normal. Antenatal care should not mean increased interference with your patients. It should mean a great diminution of that interference, often under most unsuitable conditions necessitated by the unexpected appearance of some unsuspected complication, for the treatment of which adequate provision could have been made had the patient had efficient antenatal care.

Finally, you know how careful you would be if by some unhappy chance you were compelled to attend your own wife, your sister or your daughter. Unless you are prepared to give that same attention to all your obstetrical cases there will come a day when you will find to your everlasting regret that your dexterity, your "brains" and your obstetrical knowledge will avail you nothing.

SOME ASPECTS OF EPILEPSY.[1]

By E. E. Pittman, M.B., Ch.M. (Sydney), D.P.M. (England),
Sydney.

In endeavouring to establish in one's mind a clear concept as to the nature of epilepsy and of epileptic phenomena in general and of their especial significance in any particular case, all available data and proven facts are needed in diagnosis, with comparison and deduction, failing which the above result will not be obtained. It is insufficient merely to diagnose a case as one of idiopathic or essential epilepsy, to administer sedatives and to await results. An attempt should be made in each instance to study the patient's mental make-up and to appraise the factors which make it necessary for him to have the fits, in other words to apperceive rather than simply to perceive. Each case has its particular psychological aspect. Seeing as we commonly do in these patients facial, palatal and other stigmata, it is easy to picture corresponding anomalies or imperfections of development in the cortical convolutions and the plan of their neurones and hence to be prepared for difficulties of adjustment, for loss of smooth working and in harmony under stress of certain degree or type. Many individuals, however, show similar stigmata and yet have no fits, whilst others again with definite epilepsy are quite free from obvious stigmata. Just as in the study of aphasia it is unwise to try and define strict clinical types, for each case has its separate anatomical, physiological and psychological aspects which cannot be fully correlated, so similarly are epileptic phenomena capable of analogous interpretation and a view point which is limited to one of the above trio, will suffer accordingly.

Two men at a harbour picnic commenced fighting, a woman intervened and received for her pains a blow on the head which rendered her unconscious, whereupon she passed into an epileptic convulsion and subsequently regained her senses. Here we have anatomically certain regions of the brain concussed by a blow. Again psychologically there is the factor of the preceding intense emotion which had been aroused, whilst physiologically there was the march of the convulsion in its definite order with tonic followed by clonic spasms and also the question of the alcohol consumed.

Apart from the question of inherited nervous imperfection which is so constantly forthcoming, either directly with a history of fits in a parent or less directly as equivalents such as asthma, psychoses *et cetera* in other members of the family many hypotheses have been advanced to explain the ætiology of the disease. It is not necessary to postulate a continuous cause as the nervous system is so constructed that, having once assumed a type of reaction, it is liable by habit to continue it.

The vasomotor hypothesis in effect that the fits are due to interference with the blood supply of the brain was suggested by the occurrence of convulsions in asphyxia, whilst the toxic hypothesis is based on finding increased toxicity in the blood before a fit which is converted by the fit into increased toxicity in the urine with corresponding diminution in the blood. We do not know, however, what the toxins are and uræmia, eclampsia and so forth, all lead from different toxins to fits which cannot be distinguished from those of epilepsy.

The personality hypothesis is advanced by Pierce Clark.[(1)] He regards the personality of the epileptic as all important and his life as a reaction always coloured in a certain direction by his peculiar narcissistic outlook due to a permanent difficulty which abides with him in his struggle for existence and which is present from birth. He regards the epileptic as wedged in between the compulsion neurotic and *dementia præcox* groups and the fit is viewed as being the outlet for this chronic conflict. But against this theory is the fact that the epileptic personality is seen in psychoses accompanied by no signs of epilepsy, as in many criminals who show endogenous changes of mood with explosiveness and egocentricity.

Freud regards it as a repressed sexual impulse periodically bursting its bounds, but we can regard it as an emotional dispersion without fixing it down in this way or again as a primitive mode of response or release mechanism which is due to removal of the inhibitions imposed by consciousness. It is a general motor response, protopathic in type. The rhythmic nature of the fits is in favour

[1] Read before the Section of Neurology and Psychiatry of the New South Wales Branch of the British Medical Association on April 27, 1925.

of this release theory as is also the resulting stupor due to fatigue of the kinæsthetic apparatus on which is built up the basis of personality.

We must assume an inherited predisposition to this type of reaction, for do not all the facts point that way? Gun shot wounds of the head were exceedingly common during the recent war, yet from 2% to 5% alone of those so wounded developed epilepsy; in the other 95% this exciting cause alone was insufficient to cause convulsions. This also explains why the surgical treatment of such patients is so often unsatisfactory. A similar state of affairs occurs in the relationship between syphilis and general paralysis. Fits may be induced in an individual so predisposed by such a chance head injury or perhaps later in life by alcoholism and abstinence may lead to cessation of the fits in such cases. No constant lesion of the nervous system occurs. Light is furnished by many of the above hypotheses and for working use a composite theory may be adopted. Epilepsy is a type of reaction occurring in predisposed persons under the stress of irritation as a result either of fine or coarse abnormality of the brain or again from its defective functioning; the vascular supply of the cortex is cut off suddenly by accumulation of toxins formed sometimes within the brain itself and these the convulsion serves to eliminate.

Major seizures may occur in fear states or in anxiety neurosis. This was seen in the case of a married woman of twenty-nine years whose mother was subject to epilepsy. Seizures occurred during sleep on those nights only on which *coitus interruptus* had taken place earlier in the evening. When the habit was discontinued, the fits ceased and have not recurred.

The Epileptic Character.

Deficiency stands out in all epileptics when the condition is of long standing and is mostly in the intellectual plane. Pretty well every unpleasant characteristic has been noted as part of the epileptic make-up by careful observers. Epileptics are described as awful liars, flatterers, egoistical, selfish, unctuous, plausible, impractical, narrow-minded, inconsistent, masturbators, crafty, religious and so on, no doubt quite correctly. Yet epileptics make pleasant patients; they soon cooperate with their doctor, rely on him and show themselves appreciative of his efforts to aid them. The self-pity and reiteration of the neurasthenic is conspicuously absent and even after a severe bout of fits they do not complain, but appear resigned, though this placid attitude is certainly not due to stoicism, but rather is one of the retardation effects of the disease.

The major attacks are characterized by a cortical aura succeeded by a universal tonic convulsion due to the lower motor centres being released from cortical control. This lasts only a short time as the respiratory centres become too irritated and the onset of asphyxia leads to relaxation with clonic contractions, showing that the cortex is once more responding. The epileptic cry is an inspiratory one, in which respect it differs from most other cries.

The minor attack is a simpler matter yet difficult to understand. Most likely it is a product of the association areas of the cortex, a momentary hiatus occurring in the flow similar to ordinary attacks of absent-mindedness. A passing pallor of the face and of the area around the mouth is noted and then the patient is alert again and may be quite unaware of his malady and unwilling to admit it.

Mention must here be made of pyknolepsy or frequent minor epileptic attacks in children fully described recently by Adie[2] and others. It occurs in children from four to ten years of age; very many attacks occur during the day, even one hundred or more, and after lasting some years they disappear spontaneously and leave no trace of dementia behind them. Just these momentary, identical, *petit mal* turns occur, they do not vary in length and bromides and "Luminal" have no effect whatever in stopping them. The failure of these drugs, therefore, is of diagnostic value and indicates a good prognosis.

Jacksonian epilepsy is always interesting and often important. The march of the symptoms in a definite anatomical order and the subsequent physical signs give the diagnosis. Thus when irritation of the motor cortex leads to tingling running down the arm into the hand and fingers, it should next be felt in the chin. If it proceeds in any other order than the above anatomical one, we must suspect some other condition or even hysteria. The idiopathic are by far the commonest type of Jacksonian attacks; they are merely expressions of cortical activity of pathological nature in any part of the brain, motor or sensory. Trephining is seldom indicated and medical treatment is often curative, especially with mercury and potassium iodide whether the condition be luetic or not, as iodide of mercury is a resolvent of fibrous tissue to a small extent. A man had very many similar Jacksonian attacks and was eventually operated on, but no tumour was found only a small patch of cortical softening. In other cases the symptomatology points more definitely to tumour and early confirmatory signs of increased intracranial tension and local pressure signs are sought for. An endothelioma of the *falx cerebri* in a man at first caused bilateral Jacksonian attacks in both feet. Later these were replaced by general major attacks which were thought to be idiopathic epilepsy owing to the significance of the early localizing attacks being missed and no ocular examination having been made. Death occurred while the patient was in the epileptic state and *post mortem* examination revealed a tumour as large as an egg between the hemispheres. Jacksonian attacks may also occur in the late stages of cerebral tumour due to irritaton of the cortex from increased pressure. They are then of false localizing value.

Diagnosis.

Diagnosis is often difficult from furnished descriptions of the attacks. These descriptions may be misleading, thus: "She would often have fallen, doctor, if I or the brother didn't catch her," seemed

to point to hysteria, but the condition turned out to be *grand mal*. Many epileptics seldom void urine or bite their tongues during an attack. The patient's appearance is often helpful with the furtive metallic look and retardation revealed on conversation.

The Babinski plantar reflex can also be made use of; the relatives are instructed how to test for it after a seizure and report the result.

Treatment.

Under treatment the major attacks usually cease or become intermittent, whilst the minor attacks still go on though much lessened in frequency. The stoppage of the major seizures though bringing great relief to the patient and his friends, does not remove him from the prospect of further slow deterioration. "Luminal" and bromides are no more toxic when combined than when used singly and should be tried either alone or in combination with other drugs. Phenylethylmalonylurea or "Luminal" is a first cousin of barbitone or diethylmalonylurea. The price of this Bayer product is at present a drawback and lodge dispensaries do not supply it. Tincture of belladonna is useful in *petit mal* and in children and should be pushed short of severe discomfort. The action of bromides is widespread on the neurones of the psychic and motor areas of the cortex and on the medulla and cord also, as instanced in the diminished reflex erections when given in gonorrhœa. The efficacy of "Luminal" in epilepsy and in asthma is believed by Vercellini[3] to be due to the action of that drug on the optic thalamus by affecting its connexions with the motor centres, cortical in the case of epilepsy and vegetative in the case of asthma. Those patients who are able to fight off certain of the attacks, should be encouraged in this attitude as should be habits of self-reliance in general. Many of them, however, have no warning and seem unable to exercise any control in this way.

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(2) W. J. Adie, J. Collier and G. Holmes: "Pyknolepsy," *Brain*, March, 1924, page 96.

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Reports of Cases.

CANCER OF THE APPENDIX.

By H. M. Moran, M.B. (Sydney), F.R.C.S. (Edin.),
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Clinical History.

M.D., a female, aged seventeen years, was sent into Lewisham Hospital on March 2 of this year by Dr. Dwyer, of Ourimbah. She had complained of intermittent pain in the right iliac fossa for over a year. Her family history contained nothing of interest and her personal history was unmarked by previous illness. Twelve months before she had felt pain of a colic type. There had been no vomiting, but the pain recurred daily until three months before admission she had had her most severe attack. There had never been any constipation. She had had no menstrual symptoms and the pain was not increased at the time of menstruation. There was no loss of weight. On examination she was found to be a healthy, well built girl. Tenderness was elicited on deep palpation only midway between the umbilicus and the pubes. There was no rigidity and there was no hyperæsthesia. A diagnosis of chronic appendicitis was made and she was operated on by me on March 4, 1925. Dr. C. King was anæsthetist. An appendix much larger than normal was discovered, its walls were very thick and the thickened mesoappendix was full of mucous cysts. The appendix was removed and the mesoappendix widely resected.

Dr. C. H. Shearman, who examined the specimen, reported that microscopically the wall of the appendix was seen to be the site of a primary carcinoma taking origin from the glands of the mucous coat and exhibiting a scirrhous arrangement. The tissue adjoining was seen to present a degenerative appearance, suggestive of colloid or mucoid degeneration.

The patient had a featureless convalescence and on March 19, 1925, Dr. Molesworth gave an exposure of deep x-rays. He used a two hundred kilovolt current with a filter of 0.75 millimetre of copper and one millimetre of aluminium, twelve milliampères of current, an exposure of thirty-five minutes and a fifty skin focus distance. An erythema dose was given at a port of entry twenty centimetres square to the right iliac region on March 19, 1925. On March 21, 1925, another exposure was made, crossfiring with the same dose as before with a port of entry fifteen by twelve centimetres to the right sacral region. By this means a full carcinoma dose (100%) was given in the region of the caecum.

Comment.

Her present condition is one of normal health.

The first observations on Cancer of the appendix were made by Rokitansky[1] in 1866, but it was not till 1900 that the surgical treatment attracted attention following the publication of cases by Lejars[2] and Hartmann.[3] Lejars's patient died from generalization of the disease some months after operation, but Hartmann's report suggested a benignity of the disease which evoked much scepticism.

The condition is usually discovered by accident, either in the course of an operation or in *post mortem* examination. A routine histological investigation would no doubt prove the disease to be less rare than is at present thought. It is said that the proportion of appendiceal carcinoma to intestinal carcinoma is one to twenty.

The disease is believed to be more frequent in women than in men and to be definitely an affection of youth, an overwhelming majority of the sufferers being found under thirty years. Two types are distinguished; in one the cells are spherical (this type is said to be the *apanage* of youth); in the other and more malignant type the cells are cylindrical.

No cause has been assigned, but in France an association with tuberculosis has been suggested. The relationship to ordinary appendicitis is difficult to define, but there is frequently present an inflammatory condition the symptoms from which draw attention to the disease. MacCarty and MacGrath[4] record a case in which the malignant cells developed in the cicatricial tissue which obliterated the lumen of the appendix and a comparison is made by them with carcinoma of the stomach developing from the scar of an old ulcer.

Macroscopically the cancerous appendix may show little that is distinctive. Most often, the disease is circumscribed. A diffuse form is known which is very malignant. The part of the appendix involved varies, but most frequently it is the tip. Certain cancers of the caecum are *d'origine* carcinomata of the appendix.

There is no characteristic symptomatology. He would be a bold man who would before operation hazard a diagnosis of carcinoma of the appendix. An acute exacerbation of appendicitis rarely complicates the picture, but the symptoms of chronic appendicitis generally mask it.

The important point which I had to decide in this case, was whether a second operation was advisable. Since examination of the specimen showed that section had been made wide of the disease, it was thought advisable not to intervene. But since post operative radiation, especially in basal celled growths, seems to improve our results, the patient was referred to Dr. Molesworth.

The history notes of the case were collected by Dr. G. Byrne, of Lewisham Hospital. Most of the facts about the disease have been garnered from *"Cancer de l'Intestin"* by J. Okinczyc (Gaston Doin, *éditeur*, Paris, 1923) in whose book the references given may be consulted.

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(3) Hartmann: *Bulletins et Mémoirs de la Société de Chirurgie, tome* xxxiv., Number 17, May 19, 1908, page 661.

(4) MacCarty and MacGrath: *Surgery, Gynecology and Obstetrics*, Volume XII., March, 1911, page 211.

Reviews.

THE DUCTLESS GLANDS.

The appearance of the third edition of so well known a work as that of Swale Vincent on "Internal Secretion and the Ductless Glands" calls for some comment.[1] The increase in size of this edition is stated to be due not only to the old sections being brought up to date, but also to increased attention being given to the clinical side of the subject and to a new chapter on organotherapy. The new matter of which special mention is made in the preface of this edition, appears in the chapters on the pancreas and the reproductive organs. The latter chapter is very full and complete and gives an interesting summary of recent experimental work on the reversal of sex characteristics. There is also a fairly full discussion in regard to present knowledge of the structure and functions of the *corpus luteum*, although it is rather surprising that neither in this section nor in the chapter on organotherapy is any reference made to *corpus luteum* therapy except for the brief statement (page 106) that "these extracts are now frequently employed by medical men in cases of deficient milk secretion in women."

The chapter on the pancreas is not nearly so good as the first section or as the rest of the book. The author retains much of the historical discussion which appeared in the older editions, as to whether the islets of Langerhans are definite and distinct organs from the secreting alveoli. Although he somewhat modifies opinions previously expressed by him against their separate entity, he omits any reference to the immense amount of investigational work on animals performed in recent years, which puts the separate development of these islets beyond all doubt. This omission is all the more surprising in view of the lengthy sections on the comparative anatomy of the adrenals and the thyreoid in their respective chapters. There is no mention of the hydropic degeneration of the islets found in diabetes by Allen, nor in fact, any statement at all of the pathology of diabetes, again in complete contrast to the author's treatment of Addison's disease and myxœdema. While the author's position may be in agreement with those of the English school who do not accept all the American conclusions on this subject, that is no reason for refraining in a textbook like that under review from as complete a discussion of recent work as is given in the chapters devoted to other glands. The incompleteness of his treatment is shown by the fact that the chapter on the pancreas covers only thirty-six pages, while his chapter on the reproductive organs needs thirty-nine pages and those on the adrenals and the thyreoid one hundred and forty-two and sixty-three pages respectively. Yet the work which has been done on these other glands since the appearance of his last edition, has produced nothing like the discussion or the far reaching results as that recently done on the pancreas. In spite of the preface, the only new sections that have really been added to the chapter, are a summary of the symptoms of diabetes (which is not nearly so well done as are many modern handbooks of medicine), a two page summary of the discovery of "Insulin," with a description of its methods of preparation and a section of the treatment of diabetes. The latter is a very scant summary and is admittedly taken from Joslin's work. There is evidence that the whole of this new matter has been thrown together in a rather hurried and slovenly manner. It is stated that "the normal blood sugar varies from 0.09 to 0.12," which is only about half the range of variation usually allowed. The definition of the "unit of 'Insulin'" on one page is that of the original unit, as if that were the only one in existence; two pages later in his account of Dudley's method of preparation of "Insulin" hydrochloride the author gives a different definition describing this as the "rabbit's unit" and mentioning the "human unit." In a new edition the whole chapter should be carefully re-written and enlarged both in scope and outlook.

With this exception the whole book is worthy of praise. The chapters defining the term "internal secretion," the nature and action of the active principles and the general methods of investigation are admirable for their balance and common sense. The special value of the book throughout lies in this balancing of conflicting opinions and the calm, judicial summing up of the value of various experiments and observations. This is especially noticeable in the chapter on the interrelations of the organs of internal secretion and in the new chapter on organotherapy, in both of which the admirable judgement of the author is shown. In the latter chapter a calm summary of the whole question is prefaced by the affirmation that the theories and suggestions which have been put forward, are out of all proportion to the established facts and any certain knowledge of the subject. In this respect this work is a welcome contrast to many of the publications on internal secretion that have appeared of recent years and can be recommended to all students and practitioners.

The bibliography which was dropped from the second edition, has been reinstated in somewhat altered form and this, while professedly not complete, enhances the usefulness of the whole work.

[1] "Internal Secretion and the Ductless Glands," by Swale Vincent, LL.D., D.Sc., M.D., M.R.C.S., L.R.C.P., F.R.S. (Edin.), F.R.S. (Cantab.), F.Z.S.; Third Edition; 1924. London: Edward Arnold and Company. Royal 8vo., pp. 463, with illustrations. Price: 25s. net.

MEDICO-LEGAL PROBLEMS.

"Forensic Medicine," by Harvey Littlejohn, is not intended to be a complete text-book on the subject, but a companion volume to such, representing as it does some of the cases and specimens with which the distinguished Edinburgh teacher illustrates his lectures.[1]

The volume is divided into twelve sections dealing with such conditions as drowning, firearms, the hymen, *et cetera*, each section being illustrated by many photographs. In fact these illustrations which are very good, are the chief feature of the book, the printed matter consisting of a short introduction to each section followed by descriptions of the photographs.

Although brief, it could only have been written by one of great experience and the volume should be in the library of everyone interested in medico-legal work.

[1] "Forensic Medicine: Illustrated by Photographs and Descriptive Cases," by Harvey Littlejohn, M.A., M.B., B.Sc., F.R.C.S. (Edinburgh), F.R.S.E.; 1925. London: J. & A. Churchill. Royal 8vo., pp. 270. Price: 15s. net.

The Medical Journal of Australia

SATURDAY, AUGUST 15, 1925.

Disciplinary Control.

In February of this year the Federal Committee of the British Medical Association in Australia announced that it is desirable that there should be uniform registration and disciplinary control of medical practitioners throughout the Commonwealth. The present system has long since outlived its justification. In the olden days when Australia was a collection of colonies, it was no doubt necessary to set up barriers. These interstate barriers have been broken down as far as the medical profession is concerned. One code of medical ethics is recognized in all parts of Australia. Contract practice is based on the same principles in all the States. The medical profession has only one standard of medical knowledge and its honour, dignity and interests have to be guarded in all parts of this continent. Where minor differences in professional usages and arrangements exist, these are due not to any diversity of opinion among medical practitioners, but to variations of social and economic conditions in particular localities. The medical profession in Australia is a singularly united body. The several Branches of the British Medical Association are combined for many purposes by the Federal Committee, by the Australasian Medical Congress (British Medical Association) and by The Medical Journal of Australia. In these circumstances it is unreasonable and detrimental to the interests of the profession that a member registered in one State should not be entitled to practise in another without fresh registration. It has been pointed out in these columns on many occasions that the qualifications entitling medical practitioners to registration should be the same in all the States. At present there is a want of uniformity in this respect. A high standard of medical education should be required for the safety of the community. The education provided in our own schools is of a high order. Our students of medicine have to work hard for six years and at the end of the course have to satisfy exigeant examiners that they are possessed of sufficient knowledge and skill to render them safe custodians of human lives. It is both unwise and dangerous to admit to the medical profession of the Commonwealth medical practitioners whose training has been less rigorous and whose ability has been put to a less severe test. In consequence it is necessary to demand that a high standard shall be required and that this standard shall be the same for all parts of Australia.

The medical acts not only prescribe the qualifications entitling the possessors to registration, but also impose penalties for the purpose of preventing fraudulent registration in virtue of stolen, forged or borrowed diplomas, certificates or degrees. The machinery existing for the detection and punishment of these offences varies in the several States; it should be the same in all. Experience has taught that the fact that there are six independent medical boards renders it easier for rogues and impersonators to gain entrance into the medical profession than if there were but one medical board.

The powers of disciplinary control of registered medical practitioners by the medical boards vary in the different States. In some there is no provision of this kind at all. In others the medical board is required to act as complainant before the Supreme Court. In others the board, like the General Medical Council, has the power to deregister or to warn the offending medical practitioner. This lack of uniformity is detrimental to the interests of the public and of the medical profession. It is therefore necessary to demand a reform in regard to disciplinary control as well as to the qualifications entitling graduates and diplomates to registration.

The resolution of the Federal Committee is not a pious wish. It must be regarded as a demand. By uniformity is meant more than the passage of six identical acts of Parliament. It is possible to administer six statutes in six different ways. It follows that in order to attain true uniformity and to remove all the defects of the present anti-

quated system, the Federal Government should be asked to make arrangements with the States for the transfer of their sovereign rights in regard to the medical acts. It is unlikely that any of the State Governments would offer objection to such a surrender, for this matter of medical registration and deregistration has no political significance. The transfer could be effected without difficulty and without opposition if the public was aware of the dangers and disadvantages attaching to the present system.

In Great Britain the General Medical Council sits as a court in connexion with charges of infamous conduct in any professional respect. It does not move, but requires some complainant to bring a charge against the respondent. The British Medical Association frequently acts as complainant and when it does so, the representatives of the British Medical Association on the General Medical Council retire from the court. It is always difficult to obtain a personal charge by an individual against another and on this account it is advisable that an organized body like the British Medical Association should appear as complainant, particularly because one of its functions is to uphold the dignity and honour of the medical profession. In Australia the British Medical Association has never acted as complainant before a medical board. At times when information has been brought to the notice of a Branch, the Council of that Branch has passed the information on to the board. Usually a government official has been instructed to lay an information before the medical board so that the disciplinary machinery of the board may be set in motion. Many acts which would come within the definition of infamous conduct in a professional respect, pass unchecked and unchallenged because it is nobody's business to appear as complainant before the medical board. The honour and dignity of the medical profession would be better safeguarded if in any Commonwealth legislation the proper procedure for instituting a charge of infamous conduct in any professional respect were defined. This reform is overdue and pressure should be exercised in the proper quarter to have it carried into effect.

Current Comment.

CONGENITAL SYPHILIS.

PARENTAL syphilis has for long been regarded as the most common cause of fœtal death and of abortion. The disease may affect either the father or the mother. If the father is affected Colles's law may come into operation, that is the child may show evidence of syphilis, but the mother apparently is unaffected and does not contract the disease if she suckles her syphilitic infant. Colles regarded the mother's freedom from disease as due to an actual immunity. The present view is that she is suffering from latent syphilis. If the mother suffers from clinical signs of syphilis during pregnancy, the child may or may not bear manifestations of the disease. Even in the absence of obvious signs of syphilis in the infant, its blood serum may be found to be capable of fixing complement in the Wassermann test. Thus clinical and serological methods are used for the diagnosis of infantile syphilis. It is necessary to point out again in this connexion a fact which is frequently forgotten, namely, that although the occurrence of a reaction to the Wassermann test in the absence of malaria, leprosy and one or two rare conditions may be taken as indubitable evidence of the presence of a syphilitic antibody, the failure of the serum to produce a reaction does not always determine the absence of syphilis.

Reference was made to this fact last year by Dr. John Norman Cruickshank in a report published by the Medical Research Council of the Privy Council.[1] Dr. Cruickshank investigated maternal syphilis as a cause of death of the fœtus and of the new born child and came to several important conclusions to which reference should be made. The study was based on the examination of the response to the Wassermann test in over three thousand five hundred specimens of serum. Of these specimens eighteen hundred and eighty-one were obtained from women during pregnancy or immediately after delivery, thirteen hundred and fifty were taken at birth from the placental end of the cord of the infant and the remainder were from mothers and their infants at varying periods after birth. The specimens were taken in series as the patients were treated in order to eliminate selection as far as possible. The work was carried out at the Glasgow Royal Maternity and Women's Hospital. Difficulty was experienced in getting full clinical notes of all patients and the detailed part of the study was confined to reports of one thousand cases in which full clinical data were obtainable. A positive result was obtained to the Wassermann test in 9.4% of the series of a thousand mothers. Of these ninety-four women seventy were married and twenty-four were unmarried. Of the women whose blood failed to yield a reaction, 705 were married and 184 were single. The incidence rate of syphilis was 8.91% in married mothers and 11.16% in unmarried

[1] "Child Life Investigations: Maternal Syphilis as a Cause of Death of the Fœtus and of the New Born Child"; Special Report Series, No. 82, Medical Research Council of the Privy Council, 1924.

mothers. Dr. Cruickshank quotes the findings of many observers and states that the figures given by him agree with those of most other workers who have made similar investigations. It is in connexion with the incidence of syphilis in infants that Dr. Cruickshank's findings are most interesting. He refers to the statement of Fildes that in the majority of instances women yielding a Wassermann reaction do not induce a reaction in the serum of their infants. His findings were not in agreement with this. He found an agreement between the reaction of the mother's blood and that of the child at birth in 94.6% of cases. Of the 5.4% in which the reactions failed to agree, in only 3.18% of the whole series was a reaction obtained in the serum of the mother and no reaction in that of the infant. The remainder were excluded on account of a doubtful reaction or inhibition in the control tube. Reference is also made to Kolmer's emphasis of the observation by Boas and Thomsen that the value of the Wassermann reaction as an indication of syphilis in the infant varies with the time at which the examination is made. It was thus necessary to determine whether the presence or absence of the Wassermann reaction in the blood of an infant at birth is a safe guide in determining whether the child is or is not syphilitic or whether the occurrence of a reaction in the serum of the child is to be regarded as due merely to the transference of the mother's antibodies to the fœtal circulation. With the object of settling this point one hundred and eighty-one children and their mothers were reexamined at periods varying from three weeks to twenty months after birth. It was found that all the children whose serum failed to yield a reaction to the Wassermann test at birth continued to do so from ten to twenty months afterwards. Of the children in the series who at birth yielded a response to the Wassermann test, the great majority failed to yield a reaction when reexamined from three weeks to twenty months afterwards. A small group of cases was found in which a reaction or a doubtful reaction occurred in the mother's serum at the time of delivery but in which the serum afterwards failed to react or yielded an indeterminate reaction. In these instances the child at birth failed to yield a reaction or yielded a doubtful reaction and when reexamined during the first year of life no reaction was obtained with the serum.

There was a small group of cases in which a reaction or a doubtful reaction occurred in the serum of the mother at the time of delivery, but in which this reaction disappeared or only a doubtful reaction was obtained. In these cases the serum of the child either failed to react or yielded a doubtful reaction and when reexamined during the first year of life the child yielded no reaction. From these findings Dr. Cruickshank draws some important conclusions. In the first place he holds that the Wassermann reaction in the new born is of little value in proving the presence of congenital syphilis. In the second place he states that the appearances suggest that in most instances the occurrence of a reaction in the infant's blood at birth is due to the transference to the fœtal blood of reacting substances. In the third place he suggests that the incidence of congenital syphilis has been greatly exaggerated by most modern writers. At the same time he points out that the question of the development of latent syphilis has to be considered.

Dr. Cruickshank also investigated the effects of syphilis on the incidence of abortion, premature birth and still birth. His conclusions are similar to those of other recent writers on the subject. Syphilis is one of the most important causes of still birth and of interruptions of pregnancy in its later months leading to premature birth and more particularly to premature birth with death of the fœtus. Syphilis of the mother, however, cannot be shown to be an important factor in the ætiology of the interruptions of pregnancy in the earlier months.

Dr. Cruickshank's observations at *post mortem* examination are of considerable importance. It is not possible to describe his findings in this place in any detail. One hundred and thirty-nine autopsies were made. This number included thirty-nine cases in which a Wassermann reaction had occurred in either mother or child and one hundred in which no response had been obtained to the test. Maceration had occurred in nine of the former group and in fourteen of the latter. No spirochætes were found in the macerated or non-macerated bodies of fœtuses which had not yielded a response to the Wassermann test. In the bodies of those in connexion with which a reaction had been obtained, spirochætes were found in seven among nine macerated fœtuses and in ten among thirty in which no maceration had occurred. No signs of syphilis were found in bodies of those which had not yielded a reaction and definite evidence of the disease was seen in only one-third of those in whom a reaction had been obtained. Visceral fibrosis was found in only 20% of the non-macerated group which gave a reaction and on the other hand it was found in 5% of the non-macerated group which gave no reaction. Even in those fœtuses from which spirochætes were recovered, visceral fibrosis was present in only 50%. Dr. Cruickshank concludes that there is no single macroscopical or microscopical lesion in the fœtus upon the presence of which a positive diagnosis can be made in all cases. Many of the signs supposed to be characteristic of congenital syphilis in the new born are on his showing inconstant in their presence in definitely syphilitic fœtuses and others, such as splenomegaly, are not confined to syphilitic infants.

Although this statement is not new, it is by no means generally recognized. F. J. Browne in 1921 wrote that the *post mortem* diagnosis of syphilis was not always a simple matter, but that it frequently entailed careful weighing of all available evidence—the obstetrical and clinical history of the mother, the result of the Wassermann test, the placenta, a complete naked eye and microscopical examination of the fœtal organs. He held that even when all these were available there would still be some cases in which difficulty would be experienced in arriving at a decision.

Abstracts from Current Medical Literature.

PÆDIATRICS.

Infective Hepatitis and Cirrhosis.

ROBERT HUTCHISON AND DONALD PATERSON (*British Journal of Diseases of Children*, October-December, 1924) report a case of infective hepatitis with cirrhosis. The patient was a boy, aged fourteen months. The whole illness lasted seven weeks. The onset was gradual. Ascites was a prominent feature, but jaundice was not extremely noticeable until the disease was well established. More than three litres of fluid were removed from the abdomen during the illness. Both liver and spleen were enlarged and the liver remained enlarged throughout. The blood count was that of a very acute infection. Bile passed into the bowel quite freely during the early part of the illness at least. There were no hæmorrhages beyond epistaxis. Albumin was not present in the urine. The symptoms at death were those of cholæmia. At autopsy the abdomen contained about six hundred cubic centimetres of bile-stained fluid. The liver was dark olive green and the surface almost as smooth as normal. Sections were cut of all the organs, but no change beyond cloudy swelling and a mild degree of fatty degeneration was seen in any except the liver. Microscopical examination of the liver revealed definite cirrhosis. This was of the diffuse type, not only surrounding many lobules and single lobules but also intercellular. The liver cells were grossly damaged and only here and there a perfect cell could be seen. Many round and polymorpho-nuclear cells were scattered throughout the lobules, especially about the portal spaces. In this region new fibrous tissue was being laid down and there was a large number of fibroblasts present. Throughout this mass of necrosed liver tissue and inflammatory reaction, perfect liver cells could be seen singly, in pairs or in small groups. The picture was, therefore, one of subacute liver necrosis, with consequent cirrhosis and commencing regeneration of the liver cells. The microscopical characters of the liver would appear to place this case half way between the acute yellow atrophy, chloroform poisoning and the ordinary hob-nailed cirrhosis.

Obesity in Children.

F. S. LANDMEAD AND E. G. B. CALVERT (*The Lancet*, November 29, 1924) report eight cases of obesity in children. They investigated the condition of these patients with reference to carbohydrate metabolism and its modification by the administration of the extracts of certain ductless glands. Obesity associated with a soft, velvety texture of the skin, gynæcomastia, prominently feminine conformation of the body and placidity of temperament often leads to a diagnosis of dyspituitarism on quite insufficient grounds. It is known that defects of the hypophysis may be found in patients with obesity, whether accompanied by infantilism or by precocious growth, and again by ligating the stalk of the gland or dividing it in young animals hypoplasia of the gonads may be produced. Nevertheless, it is difficult to assess clinically the part played by other ductless glands in the altered economy. In none of these patients under the observation of the authors was bitemporal hemianopia present. To inculpate the pituitary gland two other signs are often sought—changes in the pituitary fossa as seen by X-rays and increased tolerance for carbohydrates. Radiographic evidence was forthcoming in only two of the author's patients. The radiograms showed reduction of the size of the fossa in one patient and enlargement in the other. In all the patients the usual test for carbohydrate tolerance was employed. No glycosuria resulted even with large doses, except in one instance. The blood sugar curves were studied. The curves obtained had variable features, although all deviated from the normal to a greater or less degree. Four cases were selected for investigation with regard to the manner in which the blood sugar curves could be modified by administration of extracts of certain ductless glands. The blood sugar curves were compared with the normal. The influence on the blood sugar curve of pituitary extract, adrenalin and adrenalin and "Insulin" were noted. Also, the influence of thyreoid as compared with desiccated posterior pituitary lobe extract was studied. The relative influence on the curves of anterior pituitary, posterior pituitary, whole gland, whole gland with thyreoid and the gonadal extracts was investigated. The blood-fat values were also determined. In the two cases in which the diagnosis of hypopituitarism was most substantiated, administration of posterior pituitary substance led to a normal curve. This favours the view that in cases of hypopituitarism it is the posterior lobe which is chiefly concerned with the altered carbohydrate metabolism. In a third patient with more normal general and with normal sexual development, the anterior lobe was that which had the correcting effect. In these three cases the whole gland had a slightly inferior influence on the blood sugar curve. This seems to indicate that the good effect on the carbohydrate metabolism obtainable by giving the appropriate gland substance may be counteracted to some extent by combining it with the extract of the other lobe. These observations seem to show that pituitary gland substance given by mouth is not inert. In one case improvement occurred on the addition of a small dose of thyreoid. The results of these experiments seem to indicate that a properly balanced plurigland-ular therapy is required for these conditions. In one patient a very considerable loss of weight occurred on the administration of testicular extract.

Typhoid Peritonitis.

H. M. GREENWALD AND H. ELIASBERG (*American Journal of Diseases of Children*, March, 1925) report a case of typhoid peritonitis in an infant without intestinal perforation. The child, aged sixteen months, first became ill with vomiting, loss of apetite and a sudden elevation of temperature to 40° C. (104° F.). For the period of two weeks physical examination revealed nothing. The temperature fluctuated between 38.3° C. and 40° C. (101° F. and 104° F.). The blood count revealed a leucopenia, but no agglutination was obtained with the Widal test. On the fifteenth day the child had an attack of vomiting and collapsed. The abdomen became suddenly distended. The vomiting continued and tenderness and rigidity were present over the whole of the abdomen. A diagnosis of general peritonitis from the perforation of a typhoid ulcer was made and immediate operation was performed. The peritoneal cavity was opened and a large quantity of serous fluid escaped. The appendix was found to be normal and no perforation of the intestine was visible. The peritoneum showed evidence of an acute inflammatory reaction. The fluid was evacuated and the abdomen was closed with drainage. The infant from this time made an uninterrupted recovery. On the next day the blood yielded a response to the Widal test in dilutions of one part in eighty. Examination of the fluid from the peritoneal cavity revealed that the fluid was clear, transparent, with a yellow tint and sterile on culture. The Widal reaction showed strong agglutination in dilution of one in eighty. The authors came to the conclusion that their patient was suffering from serous peritonitis complicating typhoid fever without intestinal perforation.

Hydronephrosis in Childhood.

A. E. SEIGEL (*Atlantic Medical Journal*, December, 1924) discusses hydronephrosis in childhood and reports a case. A coloured male child of three years of age was admitted to hospital for the purpose of determination of the nature of an abdominal tumour. He was born at full term without instrumental aid. A small lump was first noticed when he was eight months old. This was present in the right lower quadrant of his abdomen. It grew gradually in size for the first year. For a year prior to admission the swelling had increased at a greatly accelerated rate and for the last two months he had been inclined to be drowsy. On examination a large nodular mass was noted, occupying the upper left quadrant. A smaller mass was observed in the suprapubic region. Both masses

were slightly movable and were apparently not connected. Examination of the urine revealed nothing abnormal. The blood manifested a secondary anæmia. On the morning of the third day after admission convulsions began. These were accompanied by unconsciousness and a temperature of 41° C. (106° F.). The child died in sixteen hours. At autopsy nothing of interest was found except in the urological system. The bladder was eight centimetres in diameter, pale in colour and very firm to the touch. On section the wall was found to be from ten to seventeen millimetres in thickness and was definitely indurated. The ureters were greatly dilated and very tortuous, measuring from ten to twenty-five millimetres in diameter in different places. The right ureter was ten centimetres in length, while the left was fourteen centimetres. The openings into the bladder were patent and were apparently constricted by the overgrowth of connective tissue. The right kidney contained more or less kidney substance interspersed between thick walled cysts. These cysts were all connected with the pelvis by small passages. The left kidney was much larger than the right and was entirely made up of cysts connected with the pelvis by narrow passages. The pathological diagnosis was hydronephrosis, hydroureter and hypertrophy of the bladder. There was nothing found in this case of an anatomical nature that would indicate the cause of the bladder hypertrophy. In the absence of a better and more definite reason for this hypertrophy which was the cause of the development of the distension of the ureters and kidneys, the author suggests that this is a case in which the hypertrophy of the bladder was due to incoordination resulting from imperfect development or derangement of the nervous mechanism governing the part.

ORTHOPÆDIC SURGERY.

Maternal Birth Palsy.

C. LAMBRINUDI (*British Journal of Surgery*, January, 1925) advances a new theory for the causation of maternal birth palsy. He considers that it is almost impossible for pressure to be a factor and that the movement of the sacro-iliac joints during the last months of pregnancy causes traction on the lumbar sacral cord. The lesion is probably located in the roots of this nerve rather than along its course. This theory would account for both the *ante partum* sciatic pains and the rare *post partum* paralysis. No *post partum* demonstration of this lesion in the human subject has been recorded, but certain observations in the lower animals lend weight to the theory. In the cow, for example, the posterior extremities are sometimes paralysed in the last few weeks of pregnancy and in such cases the spinal cord has been found injured or its blood vessels congealed with blood clots in the spinal canal. If such occurs in the human subject a lumbar puncture might reveal the presence of the lesion.

Congenital Bilateral Subluxation of the Shoulder.

L. FROSCH (*Klinische Wochenschrift*, April 9, 1925) believes that he is the first to note the condition of congenital subluxation of both shoulders. He relates the histories of three children from ten to thirteen years of age. There was no history of injury at birth nor was anything noted afterwards. They all came from different families the other members of which were quite normal. No other joints were affected and neurological examination of the muscles revealed no abnormalities. No atrophy was noted except to a slight degree in the lower border of the *trapezius* and the *supraspinatus*. Radiological examination revealed a rudimentary development of the coracoid process and a slight blurring of the edges of the glenoid fossa, while the head of the humerus was normal.

Subastragaloid Arthrodesis.

A. DE F. SMITH AND H. L. VON LACKUM (*Surgery, Gynecology and Obstetrics*, June, 1925) make a report on one hundred and ninety-eight feet subjected to the operation of subastragaloid arthrodesis in the New York Orthopedic Hospital. The procedure used in the clinic was that described by G. G. Davis, but the technique was modified by making adequate incisions to obtain a good exposure of the joints and by removing cartilage and bone with a chisel instead of a curette. Two incisions were usually employed one over the inner side of the foot commencing just in front of and below the medial malleolus and extending downwards and forward across the astragalo-scaphoid joint and the other reaching from the tip of the lateral malleolus across the calcaneo-cuboid joint. The details of the operation are given. The authors lay stress on the importance of placing the foot backwards beneath the talus. This is specially true in *calcaneus* deformities, but applies as well to feet with a *varus* deformity. To get the *os calcis* far enough back the lateral ligaments must be detached subperiosteally from it. After the operation has been performed a plaster of Paris cast is applied and this is changed at the end of two weeks. The foot is kept immobilized in plaster for twelve weeks after the operation. An ordinary shoe is then worn and massage is started. The cause of the deformity in the feet examined was poliomyelitis in one hundred and eighty-nine, congenital club foot and other congenital deformities in seven, trauma in one and malposition due to a splint in one. The operation may be performed in patients as young as six years or even younger if the deformity cannot be controlled otherwise. The type of deformity treated in these series was *varus* or *equino-varus* in eighty-six feet, *valgus* or *equino-valgus* in eighty-three and *calcaneus* with varying degrees of *cavus* in twenty-six; five feet had flail joints with a tendency to *varus* deformity. A number of these patients had had previous operative treatment and in a number also some subsidiary treatment was carried out at the same time as the subastragaloid arthrodesis. In all but a very few cases the operation made it possible for the patient to discard splints. It was found that there were a larger percentage of poor effects among those from whom the plaster cast was removed before eight weeks than in those from whom it was removed later. The union of the tarsal bones was bony in one hundred and fifty-seven, fibrous in ten, fibrous with some instability in thirty and in one there was no union. The astragalus was stable after operation in one hundred and twenty-five instances. From the whole series of cases and with all the features considered the end results were good in 61.1%. The failures and poor and moderate results were due to imperfect operative technique, removal of plaster too soon after operation or to rotation of the tibia.

Rupture of Muscles and Tendons.

E. L. GILCREEST (*The Journal of the American Medical Association*, June 13, 1925) says that the rupture of tendons and muscles occurs more frequently than is generally supposed and that the condition is usually undiagnosed or incorrectly diagnosed, resulting in a loss of time before operation. The order of frequency of rupture of muscles and tendons is: Achilles tendon, *extensor quadriceps*, biceps and triceps of the arm, *rectus abdominis*, *supraspinatus* and the adductors of the thigh, *trapezius*, *pectoralis major* and *pectoralis minor*. The factors in the causation of rupture of tendons are senility, excessive fatigue and disease such as *arthritis deformans*. The mechanism that produces the rupture is a strong contracture of the muscle while the antagonistic group is also contracting. In the case of the *biceps flexor cubiti* the site of the rupture may be at four points, namely: (i.) In the muscle substance itself; (ii.) at the junction of the muscle and tendon; (iii.) in the tendon; (iv.) at the origin or insertion of the tendon into the bone. If the rupture occurs in the tendon, it is always in the long head. The rupture is usually accompanied by a sharp snap which may be audible several feet away and may give rise to a sharp pain. In regard to treatment if the rupture is complete or nearly so, an operation should be performed without delay. Various methods of dealing with the biceps tendon are described and the report of one case is given. The period of convalescence will be shortened by physiotherapy consisting of exposure to radiant light and heat, massage is also recommended.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at Saint Vincent's Hospital, Darlinghurst, on June 11, 1925, DR. R. B. WADE, the President, in the Chair. The meeting took the form of a series of clinical demonstrations by members of the honorary staff.

Separation of the Lower Femoral Epiphysis.

DR. M. O'GORMAN HUGHES reported two cases of separation of the lower femoral epiphysis.

The first patient was a boy, aged thirteen years, who had been admitted to hospital on April 20, 1925. He had sustained an injury to the right knee while playing football and had not been able to remember the exact circumstances of the accident. Examination on admission had revealed the presence of a large amount of effusion in the knee joint and some swelling around the joint. Any attempts at movement had been very painful. No crepitus had been detected, no shortening of the limbs had been present and no deformity. The limb had been put up in a Thomas's knee splint and submitted to X ray examination. This had revealed separation of the lower epiphysis of the femur with slight backward displacement of the lower fragment.

On April 23, 1925, the knee had been acutely flexed and a bandage and pad applied. On April 27, 1925, the radiologist had reported that the position was excellent and the bandages had been removed on May 18, 1925. The joint had been moved through a few degrees and no pain resulted. The limb had been left unbandaged, the patient being allowed to move it at will. He had almost been able to straighten the limb by May 23, 1925. Dr. O'Gorman Hughes said that a course of massage had been commenced and was being continued. Although discharged from hospital on June 1, 1925, the patient still walked on crutches, no weight being placed on the knee. Eight weeks had elapsed since the accident.

Dr. O'Gorman Hughes's second patient was a youth, aged sixteen years, who had been admitted to hospital on June 8, 1924, after being injured while playing football. He had stated that his left leg became twisted under him, that he felt sudden pain and could not use the leg. Examination on admission had revealed inversion of the left lower extremity from just above the knee joint. The relative positions of the bones of the knee joint had been normal. The condition had been regarded as a supracondylar fracture of the femur and probably a separation of the lower femoral epiphysis. The deformity had been reduced under anæsthesia and a Thomas's splint with extension applied. The limb had been examined by X rays on the following day and the radiologist had reported the presence of complete separation with forward displacement and rotation (from below forwards and upwards) of the lower epiphysis of the femur.

Four days later further manipulation had been carried out under anæsthesia, strapping had been applied and extension had been obtained by the use of a Thomas's splint. X ray examination had shown that the position was unimproved.

On June 27, 1924, three weeks after admission, "ice tong callipers" had been applied under anæsthesia to the lower fragments and the limb had been fixed in a Hodgen's splint. Extension by weights of 5.4 kilograms (twelve pounds) had been applied. The weight had been increased after five days to 6.3 kilograms (fourteen pounds). Dr. O'Gorman Hughes pointed out that it was extremely difficult to insert hooks into such a small piece of bone as was represented by the lower femoral epiphysis. On July 8, 1924, eleven days after the insertion of the hooks, the position of the fragments as determined by X ray examination had been unchanged.

On July 14, 1924, open reduction of the fracture had been undertaken. A twelve and a half centimetre incision had been made laterally over the outer side of the fracture. Lane's levers had been used to force the upper fragment forwards. By flexing the knee and by means of levers the fragments had been brought into good position. Gouch's splinting had been applied posteriorly. The wound had oozed a good deal next day and the patient's general condition had not been good. Seven days after the operation the wound had been dressed for the first time and had looked well. Seven days later some pus had exuded from the wound, fomentations had been applied and the wound became quite clear and healed up within a week. Three weeks after the open reduction the knee joint had been subjected to passive movement and the condition of the joint and bones had seemed very satisfactory. X ray examination, however, had shown that the position was still very unsatisfactory.

On August 15, 1924, open reduction had again been attempted. The old scar had been excised and the fragments had been found in their old position, while much callus had formed around them. Good position had again been secured. The following day the patient had complained of much pain in the knee, his general condition had been very bad, his colour pale and his radial pulse impalpable. Four days after operation the temperature had risen to 38.9° C. (102° F.) and a large collection of blood had been noted under the skin of the upper part of the wound. On exploration with sinus forceps much pus and blood had escaped and a rubber tube had been inserted. The foot and leg had become swollen and blue. This condition had persisted for one week and the toes had become dry and hard and all sensation had been lost in the foot. A few days later a line of demarcation had appeared above the ankle. The tube in the wound still discharged much pus and the whole region of the knee joint had been swollen and œdematous. On September 2, 1924, the lower end of the upper fragments of the femur had pierced the skin laterally, about 3.75 centimetres (one and a half inches) of bone protruding.

On September 4, 1924, blood transfusion had been performed, three hundred cubic centimetres of citrated blood being instilled with Keyne's apparatus. A beneficial effect had been produced, the patient improving during the following few days.

On September 8, 1924, the lower extremity had been amputated through the lower end of the thigh. From then onwards the patient had made an uninterrupted recovery, he had been discharged on October 19, 1924.

Dr. O'Gorman Hughes said that examination of the limb after amputation had revealed a thrombus in the femoral artery at the lower end of Hunter's canal. Below this the artery had been collapsed. The peroneal nerve had been yellow and degenerated below the fracture.

DR. H. SKIPTON STACY, in discussing Dr. O'Gorman Hughes's second case said that he had had no similar experience. He wondered whether it would have been good policy to fix the fragments by wire or other material at the open operation.

Dr. O'Gorman Hughes said that most authorities held that the limb in such a case should be put up in flexion. If he came across a similar case on any future occasion he would over correct the deformity and fix the limb with the knee flexed as in the first case in which the epiphysis had been displaced backwards.

Melæna.

DR. H. H. BULLMORE showed a boy, aged fifteen years, who had been admitted to hospital on April 17, 1925, complaining of bleeding from the bowel of eleven years' duration. The family history was good; father, mother, seven brothers and two sisters were alive and well and there was no history of "bleeders" in the family. The patient had suffered from severe "collitis" at the age of four years. Since that time he had lost a small amount of blood from the bowel practically every day. Dr. Bullmore said that the child's parents thought he was suffering from piles. This, however, was not the case. On examination the patient looked very anæmic, he was rather fat and somewhat lemon coloured. The stools had been examined

for signs of parasites, but none had been found, a coliform bacillus had been obtained on culture. Radiological examination had failed to reveal any abnormality in the colon, the enema had flowed freely to all its parts. Several blood counts had been carried out. On April 19, 1925, the erythrocytes had numbered 2,880,000 per cubic millimetre, the hæmoglobin value had been 50% and the colour index 0.86. The leucocytes had numbered 4,800 per cubic millimetre and of these 56% had been neutrophile cells, 30% lymphocytes, 12% large mononuclear cells and transitional cells and 2% basophile cells. No eosinophile cells had been seen. The red cells in the films had manifested achromia and anisocytosis and poikilocytosis had been present. One normoblast had been seen. Similar blood counts had been obtained on three different occasions. The patient had been examined by Sir Alexander MacCormick who had found the rectal wall on digital examination to be spongy and bleeding. He had considered it inadvisable to perform sigmoidoscopy. Irrigation of the bowel had been advised, but this had only been followed by further hæmorrhage. "Hæmostatic serum" had been used with immediate effect, but within a day or two the bleeding had returned. It was proposed to carry out blood transfusion, but up to the time of demonstration no suitable donors had been found.

Dr. Bullmore said that the inadvisability of the performance of sigmoidoscopy made the diagnosis much more difficult. It was necessary to determine whether the patient was suffering from some blood dyscrasia or whether a pathological lesion in the colon or rectum was responsible for his condition.

Dr. A. W. Holmes à Court said that it was hard to understand how the condition could be due to a blood dyscrasia. According to the blood picture it was not so. The anæmia had all the appearances of a secondary anæmia. He thought that some local pathological condition must be present in the intestine of a weeping angiomatous or papillomatous nature. He would like to see sigmoidoscopy performed, but would be diffident about doing it in view of Sir Alexander MacCormick's advice. He had no other suggestions to offer.

Dr. H. Skipton Stacy thought that the lesion might be an angioma. He recalled a case of his own in which similar symptoms had been present. The patient, a woman over thirty years of age, had died and at *post mortem* examination varicosity of the whole of the large bowel had been found.

Dr. Bullmore said that after hearing the opinions of the two previous speakers he felt more fortified in his opinion that the surgeons should investigate the local condition.

Cerebellar Cyst Complicating Acute Appendicitis.

Dr. B. T. Edye showed a specimen of a cerebellar cyst which had been removed at *post mortem* examination from the body of a patient who had been operated on for acute appendicitis. The patient had been admitted to hospital on April 11, 1925, complaining of acute abdominal pain of fifteen hours' duration. The patient had stated that on waking up in the morning he had experienced slight discomfort in the epigastrium. He had attended his work as usual and on returning home at midday (Saturday) had felt no worse. During the afternoon whilst hosing the garden he had been attacked by pains in the right side of the lower part of the abdomen of such severity that it had doubled him up. He had then been seen by a doctor who, having diagnosed the condition as acute appendicitis, had sent him at once to hospital. Further inquiry had elicited the information that he had had a slight attack of diarrhœa in the morning and that he had not vomited. Inquiry into other systems had elicited no complaints. The temperature on admission had been 37.6° C. (99.8° F.) and the pulse rate 68 in the minute.

The patient had been attended by Dr. Davidson and Dr. Waddy for some months previously on account of headaches, but what the condition was he did not know. As he had had no recurrence of symptoms he had not seen either Dr. Davidson or Dr. Waddy for about six months.

Physical examination on admission had revealed the usual signs of acute appendicitis and immediate operation had been performed. The appendix had been found very acutely inflamed and congested and about half-way down its length a patch of yellow lymph had been present. The patient had taken the anæsthetic well and except for slight coughing during induction had given no trouble whatever. He had regained his reflexes just as he was being wheeled out of the theatre. About fifteen minutes after leaving the theatre the respiration had suddenly ceased without any apparent cause. Artificial respiration had been resorted to, but with little or no benefit as it appeared that no air could enter the lungs. An obstruction had been sought in the throat and larynx, but none had been found and the patient had died in about ten or fifteen minutes. At *post mortem* examination acute dilatation of the right ventricle and attendant signs of venous stasis had been found but nothing more. A cyst had been found in the left hemisphere of the cerebellum. Dr. Marjory Little had reported that portion of the wall of the cyst and adjoining brain substance were examined. No lining of the cyst could be recognized, but the wall was found to consist of highly cellular tissue which was invading the surrounding brain substance. The cells of this tissue were not arranged in any special grouping but grew diffusely. They were mostly large with a definite nucleus and nucleolus, though some were more spindle shaped. Thin walled spaces containing blood were numerous, as were also other spaces whose contents did not stain. The latter were probably lymph channels. The lesion was a new growth with the structure of an endothelioma, probably arising from the endothelial cells of lymphatic channels. The cyst containing clear fluid was probably a greatly dilated lymph space. Professor Welsh had seen the sections and confirmed the report.

Dr. D. J. Glissan asked whether any evidence had been forthcoming at the *post mortem* examination to support the view that death was due to cerebellar tumour.

Dr. Edye said that it was difficult to explain why the patient had died so suddenly. The body had been that of a healthy man and no cause which would account for death had been discovered. The cyst had been a large one and had contained serous fluid. Death had probably resulted from vascular disturbance and alteration in pressure. The patient had died like a man with a cerebral lesion.

Chronic Tuberculous Osteitis.

Dr. Edye also showed skiagrams and read the clinical report of a case of chronic tuberculous osteitis. This report will be published in full in a subsequent issue.

The discussion which followed Dr. Edye's demonstration centred round the question of the rarity or otherwise of tuberculosis of the long bones in Australia.

Dr. D. J. Glissan referred to the fact that tuberculosis of shafts of long bones was rarely seen in Australian clinics. He also pointed out that the appearance of a regenerative process in skiagrams of such a condition might lead to a mistaken diagnosis of syphilis.

Dr. R. B. Monson said that tuberculosis of the long bones though rare in Australia was by no means uncommon in Scotland. Tuberculosis of the radius and phalanges in young people might be mistaken for syphilis, as in these bones it not infrequently produced a hypertrophic osteitis. Dr. Edye's case was apparently an example of this type of tuberculosis occurring in the femur.

Dr. B. J. M. Harrison said that the radiological appearances of tuberculosis of bone could simulate those of any other infective disease. He pointed out that a radiologist's report on the aetiology of an infective bone lesion was only a suggestion. It was not by any means a final diagnosis, even from a radiologist's point of view.

Dr. R. B. Wade said that tuberculosis of bone in Australia differed from that in the United Kingdom, especially in regard to severity. He could count on the fingers of one hand the cases of tuberculosis of bone which he had seen in Australia affecting areas in the shaft of the bone. The process always started in the metaphysis and spread into the epiphysis. Sir Harold Styles had recommended exten-

sive resection of bone when the disease spread along the shaft. Tuberculosis in the shaft of a long bone was so rare in Australia that careful consideration had to be given to a case before a definite diagnosis could be made.

Aortic Aneurysm with Chyluria.

Dr. R. J. Taylor gave an account of the history of a female patient, aged sixty-three years, who had been admitted to hospital on May 15, 1925, complaining of weakness and of passing urine which had the appearance of milk. For fifteen years the patient had been passing "milky" urine. The milkiness was not continuous, but was sometimes absent for weeks or months. It always recurred, however, and the patient sometimes passed clots of white material which looked like the roe of a fish. The condition though persistent had not prevented the patient from doing her work fairly well. Two months prior to admission she had begun to feel worse and weaker. She had also begun to pass many clots of white material and also blood clots. These had caused great pain while being passed. The patient had been complaining of shortness of breath and had lost weight. The patient had complained of no other symptoms and had lived in Brisbane nearly all her life.

Dr. Taylor said that the patient's complexion was rather sallow, she had no dyspnœa, cyanosis or cough. The urine contained albumin, pus and blood. On microscopical examination fat globules had been found in abundance. No abnormality was discoverable on clinical examination of the heart, but X ray examination revealed the presence of an aneurysm of the arch of the aorta. No filaria embryos had been found on nocturnal examination of the blood. No filaria had been found in the urine. No fat had been detected in the fæces and no eosinophilia had been found on examination of the blood. On a fat free diet the chyluria had disappeared.

Dr. Taylor said that the important question was to decide what was causing the obstruction to the outflow of chyle into the circulation. The patient's place of abode suggested the presence of filaria, but no evidence of this had been found. It was doubtful whether the aneurysm, as shown by X ray examination, would be sufficient to cause the condition since there were no other pressure symptoms due to the aneurysm. He would expect to find chylous ascites from obstruction above the diaphragm. Unfortunately the patient's serum had not been subjected to the Wassermann test.

Colloid Degeneration of the Skin.

Dr. Langloh Johnston and Dr. G. B. Lindeman showed a male patient who was suffering from colloid degeneration of the skin. The condition of this patient was described in detail with illustrations by Dr. Johnston and Dr. Norman Paul in The Medical Journal of Australia of April 8, 1916. Dr. Johnston and Dr. Lindeman pointed out that the lesion had made but little progress since 1916. The eruption consisted of small papules on the backs of the hands some of which were discrete while others were aggregated. It was pointed out that when a section of skin was examined microscopically the corium was seen to contain round areas consisting of a homogenous structureless material which consisted of colloid.

Urticaria Pigmentosa.

Dr. Johnston and Dr. Lindeman also showed a patient, aged thirteen years, who had suffered from *urticaria pigmentosa* for two and a half years. The eruption had appeared first on the patient's legs, then on her arms and lastly on her face. It alternately appeared and disappeared from the face, but remained permanently on the legs and arms. It was pointed out that the affection was a rare one, characterized by the formation of macules or nodules which became urticarial upon slight irritation. The condition began in early infancy, 70% of the patients were affected during the first year of life. Males were affected twice as frequently as females. Heredity had no bearing on the incidence and the cause was unknown. Pathologically the lesions were composed of infiltrations of mast cells. Two types of the eruption were found, a macular and a nodular type. The spots were pigmented patches the size of a split pea. They were of a buff or brown colour and on exposure to the air or on slight friction became turgid and wheal like. It was usually easy in the presence of this condition to produce factitious urticaria. Itching was not constant. The pigmented spots persisted for years. The condition frequently disappeared at puberty. The lymphatic glands might be enlarged.

Lichen Morphœicus.

The third patient shown by Dr. Johnston and Dr. Lindeman was a man aged sixty-eight years. He had suffered for twelve years from *lichen morphœicus*, the atrophic or sclerotic form of *lichen planus*. The lesions were situated on the buttocks and thighs. They consisted of white atrophic spots which were rounded or polycyclical. They extended slowly by a definite margin which contained the polygonal lichen papules. In the atrophic centre of the lesions the dilated orifices of the sweat and sebaceous glands could be seen.

Pathological Specimens.

A series of pathological specimens were shown in the new pathological department at the hospital by Dr. Marjory Little and Dr. L. Utz. It was explained that the department had but recently been created and the complete nature of its appointments was demonstrated. Among the specimens were a large ovarian cyst, a fibroid tumour of the uterus containing areas of degeneration, an amœbic abscess of the liver, hæmorrhage into the pelvis of a kidney from a case of fulminating purpura and atheroma of the aorta. The history attached to the last named specimen was of interest. The patient complained of asthma and had been sent for admission to hospital, but had died while getting into bed.

Acute Pernicious Anæmia.

Dr. J. J. Woodburn read the clinical history and *post mortem* notes of a case of acute pernicious anæmia. This report will be published in a subsequent issue.

Skiagrams.

Dr. B. J. M. Harrison showed a series of interesting skiagrams. Included amongst the number was a series of skiagrams of the knee in which were demonstrated various pathological types and some healthy knee joints with apparent abnormality. In two knee joints of children were seen punched out, rounded areas of rarefaction. The areas were about three millimetres in diameter and were surrounded by sclerosis. They were situated in the lower epiphysis of the femur and the upper epiphysis of the tibia; they were probably tuberculous. Another skiagram was that of *osteochondritis desiccans* with the loose body in the usual position on the medial condyle of the femur. In yet another skiagram could be seen a condition of osteochondromatosis with over one hundred typical loose bodies.

Dr. Philip Parkinson also demonstrated some skiagrams.

Congenital Abnormality of the Costal Cartilage.

Dr. V. M. Coppleson showed a girl, aged seventeen years, who complained that whilst "packeting" several days previously she had suddenly felt a sharp pain in the region of the left breast. On putting her hand to the place she had felt a lump. On examination a firm, hard swelling was apparent between the second and third costal cartilages on the left side. The tenderness was situated somewhat to the left and below the swelling. Blood examination had revealed no abnormality and the patient's serum had not reacted to the Wassermann test. X ray examination revealed the presence of a bar between the third and fourth ribs in the line of the anterior axiliary fold. The bar had been fractured. The swelling in the region of the second and third costal cartilages was considered to be of congenital origin associated with the presence of the bar.

Dentigerous Cyst.

Dr. Coppleson also showed a woman, aged twenty-five years, who complained that her dentist was unable to fit her satisfactorily with a denture. Examination revealed a swelling in the upper alveolus to the left of the middle line about the size of a pigeon's egg. Definite egg shell crackling could be felt. X ray examination revealed the presence of an imperfectly developed tooth.

Legg's Disease and Köhler's Disease.

Dr. D. J. Glissan showed a patient suffering from Legg's disease and one suffering from Köhler's disease in order to contrast the two conditions and to show their points of resemblance, clinical and radiological.

The former was a boy of thirteen years who had presented himself on April 25, 1923, complaining of a limp affecting the left lower limb of eighteen months' duration. The patient was of the obese hypopituitary type and manifested some fixed abduction of the hip with limitation of rotation particularly in an internal direction. Flexion was free. There was a strong tuberculous family history. The radiologist had reported the condition as "probably tuberculous." No reaction had been obtained to the von Pirquet test. A consideration of the clinical signs together with the personal history had led Dr. Glissan to form the opinion that the condition was one of Legg's disease. Subsequent X ray examination and the patient's progress had definitely established the latter diagnosis.

Various skiagrams were shown illustrating the different stages of the disease. Those taken earlier manifested the typical flattening and fragmentation of the epiphysis and the increased density of some portions of the bony nucleus, whilst the final pictures showed the integrity of the latter restored in the shape of a thinned out flattened cap overlying the broadened neck of the femur.

The second patient was a boy of eight years who had presented himself with an indefinite history of injury to the right foot of some fourteen days' duration. Subsequently the mother had noticed that he was walking badly on the affected foot. He had commenced to complain of pain in the foot one week before being seen. The pain was located below the tip of the lateral malleolus. Examination had revealed a foot fixed in eversion and with definite spasm of the peronei muscles. There had been no tenderness or swelling over the scaphoid. Dr. Glissan had ruled out Köhler's disease and had regarded the condition as one of simple spasmodic flat foot. In view of the traumatic element in the history an X ray photograph had been taken. This had revealed typical Köhler's disease.

Under an anæsthetic the spasm of the peronei had relaxed and the foot had appeared quite normal. It had been kept in inversion adduction in plaster for some weeks and a further X ray examination had revealed the epiphysis to be much less flattened and discreet. The child had been allowed to walk in a shoe crooked on the inner side and had had no further trouble.

Dr. Glissan said that he regarded these conditions as representing the reaction to weight bearing strain on the part of the epiphyses which were the seat of some temporary developmental error.

Deformity of Foot.

Dr. Glissan also showed a patient exhibiting a remarkable foot deformity. The patient was a youth of sixteen years who had sustained an injury to the right foot six months before seeking advice through a horse rolling on it. He had attended another hospital at this time and an X ray examination had revealed no bony lesion. He had been treated for a sprained foot for some few weeks in the out patient department and discharged. He had not improved and had felt pain in the foot when he walked.

Dr. Glissan on examination on March 4, 1925, had found a condition of rigid flat foot with bony enlargement in the region of the tubercle of the scaphoid. A skiagram taken at this time had shown the following changes. The scaphoid had been smaller than its fellow of the sound side and had been displaced wholly to the medial side of the foot so that it lay applied to the medial border of the head and neck of the astragalus. The latter bone in consequence had articulated directly with the second and third cuneiform bones. It had been separated from the first cuneiform bone by only a very small portion of the extreme lateral edge of the scaphoid. The neck of the astragalus had been much broadened and inclined less medially than its normal fellow. Hoke's operation had been performed. The neck of the astragalus had been divided, the distal portion of the bone freed from its connexions and removed. The head had been found to be flattened and much lipped. The latter had been denuded of all traces of cartilage. The articular surfaces of the second and third cuneiform bones had been similarly treated. All traces of cartilage had been removed from the subastragaloid joint. The stump of the neck of the astragalus had been so shaped that the distal portion on being replaced had been directed medially, correcting the abduction of the fore part of the foot. The peronei tendons had been divided above the ankle joint and the foot fixed in plaster in moderate inversion, adduction and full dorsiflexion. The patient's foot was in plaster and Dr. Glissan proposed showing the patient again when union had occurred between the various bones and the patient was using the foot.

At operation no sign of any inflammatory process had been found beyond the osteo-arthritic changes already noted. The scaphoid had been wholly medial to the field of operation and no interference had been made with it.

Dr. Glissan was at a loss to explain the severe changes which had taken place in the foot within the six months that had elapsed since the first X ray examination.

A Meeting of the Section of Neurology and Psychiatry of the New South Wales Branch of the British Medical Association, was held at the B.M.A. Building 30-34 Elizabeth Street Sydney on April 27, 1925, Dr. A. W. Campbell, the President, in the chair.

Neurasthenia, Psycho-Neuroses and Manic Depressive Insanity.

Sir John Macpherson read a paper entitled: "The Relation of Neurasthenia and the Psycho-Neuroses to the Manic-Depressive Syndrome." This paper was published in our issue of June 13, 1925.

Dr. Chisholm Ross thanked Sir John Macpherson for his clear presentation of an important subject. He drew attention to the fact that lack of volition was an important factor in persons suffering from manic-depressive reaction. These patients knew what they would like to do and be, but they lacked the volition necessary to carry out their desires. Persuasion helped them to a certain extent. He considered that gastro-intestinal disorders were mostly associated with the mental condition but not responsible for it. During the excited phase of the disorder the gastric canal was generally healthy, but in the melancholic phase there was generally much intestinal stasis.

Dr Ralph Noble referred to the doctrine of Professor Adolph Meyer, of the Johns Hopkins University, regarding the manic-depressive reaction. Professor Meyer taught that the lack of volition referred to by Dr. Chisholm Ross was due to the fixation of effect, either in the elated phase or the depressed phase of the disorder. Professor Bleuler, of Zürich, taught that the deviation of the effect either to the elated or depressive phase of this condition may be due to one of three causes: (i.) family tendency; (ii.) psychogenic causes; (iii.) physical factors as in toxic conditions, endocrine disturbances, somatic diseases and so forth.

The true manic-depressive condition was due to congenital defect in the person's make-up and there was a family tendency for this condition to repeat itself, and when the reaction occurred as a result of psychogenic or physical causes, he still believed that there must be a manic-depressive predisposition in patients to react in that way. The chart referred to by Sir John Macpherson of Dr. Paton's patients in which changes in blood pressure were

increased during the exalted phase and diminished in the depressed phase of the malady, lent further evidence to the speaker's belief that the reaction was due to a lack of balance of the intestinal secretions of the body. The manic phase followed upon some psychic or physical exciting cause and the body was unable to control the release of the hormones which followed the mental and physical reaction, so that the state of exaltation continued after the exciting cause had been removed and the physical phenomena recorded in the chart thus appeared. However, exhaustion must follow this excessive output of endocrine material and the patient swung over to a state of depression, psycho-motor retardation, apathy *et cetera*. These phenomena also lent support to the theories already expressed that the manic-depressive reaction only occurred in persons who were physically predisposed to such disturbances.

Dr. John Bostock gave an instance of a case of melancholia in which he found together with hypothyreoidism great reduction in the free hydrochloric acid content of the stomach. This patient apparently made a good recovery after the exhibition of thyreoid extract and hydrochloric acid by the mouth. However, a state of acute mania had subsequently followed and later a condition of profound melancholia on which the former treatment had had no effect. Dr. Bostock pointed out how difficult it was to assess the value of any one symptom such as the digestive disorder in this condition, especially with reference to the causation of the mental state.

Dr. J. A. L. Wallace asked if there existed any definite proof of the factor of heredity by which the temperament of the parents could be shown to have an effect upon the patient, predisposing him to a manic-depressive reaction.

Dr. A. W. Campbell referred to the saying of a witty American that they "should begin treating neurasthenia by looking after the ancestors," to which Sir Clifford Allbutt had replied: "Perhaps we should begin by treating the physicians." Dr. Campbell remarked that the relationship between neurasthenia and the manic-depressive reaction had not previously been shown to be so close. Frequency of suicide amongst patients generally looked upon as neurasthenics had not been mentioned and he asked the author of the paper if he could state any facts as to the frequency of suicides in these cases.

In reply Sir John Macpherson agreed with Dr. Chisholm Ross as to the importance of volition in manic-depressive reactions and in neurasthenia. He had drawn attention to the need of assuring the patient that his volition would return. He agreed with Dr. Noble that many cases depended upon the nervous implications of the disturbance of the endocrine secretions and drew attention to the temporary presence of sugar in the urine in these patients as further evidence of such view. It was hard to make generalizations regarding the effect of heredity in the causation of manic-depressive disorders. He agreed with Dr. Campbell that patients looked upon as neurasthenics were often not sufficiently guarded against suicide. He looked upon them as the most dangerous of the melancholics. Patients who were the subjects of obvious manic-depressive psychoses were as a rule more carefully supervised and were, therefore, not as liable to commit suicide as the neurasthenics who developed depression.

Epilepsy.

Dr. E. E. Pittman read a paper entitled: "Some Aspects of Epilepsy" (see page 193).

Dr. Evan Jones in discussing the paper said that they should always speak of the epilepsies rather than of epilepsy as one disease. He was interested in Pierce Clarke's hypothesis, but it carried the idea of sex as a basis for the attacks to such an extent as to become impossible. Dr. Jones and Dr. Prior had demonstrated very definite metabolic and endocrine disturbances associated with epilepsy. At *post mortem* examination they had found that the thymus gland had remained well developed in 70% of the cases, also that the suprarenal gland showed evacuolation of the cortex and that fatty degeneration of the liver was often present. He thought that there was little to suggest that the epileptic fit arose from cortical irritation. There must be some afferent impulse to commence the reflex, a severe peripheral stimulation such as a cold bath could bring on an attack. The tonic stage of the fit was the outflow from the lower cerebral centres, whilst the convulsive phenomena were cortical. In epilepsy there must be a reduction in the resistance in the intercortical pathways, at the synapses.

Dr. Donald Fraser said that it was necessary to pay more attention to the psychological aspect of epilepsy. In hystero-epilepsy there was conversion of psychological symbols to physical forms and they occurred at a high level of the nervous system. Secondly, psychasthenic convulsions occurred at a lower level. Thirdly, affect epilepsies were closer to the true epileptic seizures. Fourthly, idiopathic epilepsy represented the lowest strata of the nervous system. In the first three types the fit was an escape from reality, in the last there was tremendous regression. The quality of the unconsciousness in epilepsy was similar to the unconsciousness at birth. The dementia following epilepsy was the permanent escape from the realities of life. In the treatment of epilepsy Dr. Fraser preferred the use of suggestion along with slow withdrawal of bromide. It was a mistake, he said, to rely altogether on treatment for the organic state, when there was also a psychological conflict responsible for the condition. He had not known a patient who had not benefited by psychological treatment combined with bromide and he advised reeducative treatment between the attacks.

In reply, Dr. Pittman said that he could not agree that the endocrine hypothesis of causation in epilepsy was a satisfactory one, but preferred the view that the fit was due to some interruption of the synapses.

Organic Factor in Mental Disease.

Dr. C. Henry read a paper entitled: "The Organic Factor in Mental Disease." (This paper was published in the issue of June 27, 1925.)

Dr. J. A. L. Wallace agreed that an organic cause could frequently be found for a mental disturbance and mentioned a recent case of confusional insanity in a young woman in which the *post mortem* examination had revealed carcinoma of the uterus. He thought that an early diagnosis of this condition might have prevented the development of the mental state. He also referred to an instance of tape worms as an exciting cause of epilepsy in which the fits ceased after removal of the parasites.

Dr. O. Latham said that care should always be taken before cures from psychological state could be claimed. The psychosis associated with and presumably caused by a definite intracranial lesion often simulated mental states quite unconnected with any recognized pathological changes. Conversely in consultation he had once agreed with a diagnosis of a pure psychosis, the autopsy months later revealing a small glioma in the parietal cortex with no apparent excess of cerebro-spinal fluid. Could they be sure of cause and effect in such a case? He felt compelled to accept the axiom that as different patients varied in their reactions to known poisons, pharmacological and bacteria, both as to time and degree, so their neurones also reacted varyingly to other traumas including the painful emotions.

A meeting of the Eye, Ear, Nose and Throat Section of the Queensland Branch of the British Medical Association was held at the B.M.A. Building, Adelaide Street, Brisbane, on March 21, 1925, Dr. J. Lockhart Gibson, the President, in the chair.

Foreign Body in the Œsophagus.

Dr. Charles Jackson read notes on the occurrence of two foreign bodies in the œsophagus of a child whose signs and symptoms had been very confusing.

Malignant Disease of Tonsil and Pharynx.

Dr. Walter Crosse showed a male patient, aged about seventy-four, whom he had treated for malignant disease

of tonsil and pharynx over two years previously by diathermy. There was a pliable scar and no sign of recurrence.

Aniridia.

Dr. E. O. Marks showed two children suffering from aniridia.

Ciliary Inertia.

Dr. George Thomson's patient was suffering from ciliary inertia or paresis due to traumatism from hot "white metal," which contains a fairly large proportion of lead.

Laryngeal Tuberculosis.

Dr. E. Culpin showed a patient who was suffering from laryngeal tuberculosis. The patient, a male, aged about thirty-seven, had been admitted to the Brisbane Hospital with extreme dyspnœa, due to extensive infiltration of his larynx. This had been relieved by a tracheotomy. The lungs were extensively diseased. In a period of six months the change in the patient's condition had been remarkable. The general condition was enormously improved and the condition of the larynx was approaching normal.

Malignant Disease of the Larynx.

Dr. Culpin also showed a male patient, aged sixty years, who had been demonstrated at the September meeting. Antisyphilitic treatment had apparently been followed by temporary improvement, but the condition of laryngeal stenosis had gradually become worse. The cords had a reddened wooden appearance and were almost motionless. The serum still reacted to the Wassermann test. Tracheotomy had been performed.

Dr. W. N. Robertson, C.B.E., suggested the possibility of the condition being due to sinus infection.[1]

Dr. Lockhart Gibson related the history of a case of a tuberculous larynx in a man of thirty years, who had been under his treatment fully thirty years previously. The epiglottis had gradually ulcerated away. The laryngeal ulceration was very extensive and had resulted in such constriction of the larynx that the patient had begged him to do the tracheotomy he had recommended. The immediate effect of the tracheotomy had been a healing of all the ulcers and a gain of 6.3 kilograms (a stone) in weight in three months. The patient had then gone out on a cold, wet night. This had been followed by an attack of miliary tuberculosis and death. A *post mortem* examination had revealed all the laryngeal ulcers healed and in both lungs innumerable fine miliary tubercles. He thought that this got rid of any doubt as to the tuberculous nature of the patient's larynx.

Atrophic Rhinitis.

Dr. Culpin also demonstrated the result of a partially successful attempt to treat atrophic rhinitis by the medial displacement of the inner antral wall.

Foreign Body in the Eye.

Dr. Alex. MacDonald showed a boy, aged four years, who had been sent to him from the country on February 24, 1925 with the history that while playing in the back yard two days previously he had picked up a bomb detonator which exploded in his hand. Several pieces had entered his hand and the side of his head and one small piece had penetrated his left eye through the conjunctiva at the inner canthus.

When first examined by Dr. MacDonald the perforation had been visible at the inner canthus where the metal passed through the conjunctiva. The pupil had been dilated and black, but as atropine had been applied by the local doctor he could not tell how much of the dilatation was due to the injury. The eye had been injected, but the tension was normal, it had been clear and had shown no signs of infection. Dr. A. T. Nisbet had taken an X ray photograph. The piece of copper had been seen either in the posterior part of the sclera or close behind it in the orbit.

Treatment had consisted in keeping the eye clean by washing the conjunctival sac with boracic lotion every three hours and applying atropine once daily. The infection had soon disappeared and the opening in the conjunctiva had healed in a few days.

With the ophthalmoscope a small detachment of the retina had been visible on the inner side extending nearly to the disc which looked quite normal. After ten days the detachment had gradually disappeared and at the time of demonstration it was difficult to notice. Dr. MacDonald asked for the opinion of those present in regard to future treatment.

Dr. J. Lockhart Gibson spoke of three steel foreign bodies removed from eyes within the previous three weeks by means of the giant and hand magnets. The last of the three had been in the eye for a year. The siderosis had been so marked that he was able to assure the patient that the eye contained a piece of steel in spite of his claim that he knew that the piece of metal had struck his eye and fallen back again. The lens was clear except for numerous siderotic spots on its anterior capsule and many siderotic adhesions of the iris to the anterior capsule. X ray examination had given important evidence of the size and location of the piece of steel. It had been too large to be brought forward by the anterior route. It had been situated in the outer lower quadrant of the fundus. An incision had been made in the sclerotic well behind the ciliary region and between the external and inferior recti. The piece of steel which weighed ten milligrammes, had been extracted by the giant magnet. It was very rusty. Its removal had resulted, as it often did, in an increase in the siderosis. No doubt the disturbance of the steel led to a further suspension of rust particles in the fluids of the eye. Vision which had been part of $^6/_{24}$ had gradually improved and three weeks after had been $^6/_{18}$ and improving, but the eye was still injected and siderotic. He expected it would take many months for the rust stain gradually to disappear.

Another patient had come only two days after a piece of steel weighing 41.85 milligrammes had entered his eye through the sclerotic. The eye was in a state of panophthalmitis and had to be removed. The foreign body was not only large; it could not have been aseptic.

A third was the case of a little girl of thirteen years. A fine needlelike foreign body had been in the anterior chamber for ten days (she had been hoeing a garden path). It had penetrated the cornea half way between the pupil and the periphery and its deeper end was embedded in the iris near its periphery. Its anterior end had been just under the corneal epithelium. His strong giant magnet, while moving it a little, had not drawn it through the wound, evidently because of the adhesive force of the iris clinging to its deeper end. He had introduced a keratome point at the corneal limbus and had succeeded in detaching the iris sufficiently from the deep end of the piece of steel to enable a hand magnet to draw it easily through the corneal wound without any enlargement. Perfect vision had been restored and the lens escaped injury.

Acute Blenorrhœa in an Adult.

Dr. MacDonald also read notes of a case of acute infection in the left eye of a male, aged forty-four years. Dr. MacDonald had first seen the patient on the afternoon of March 7, 1925. He had been complaining of pain and watering in the left eye for one day. He had also a urethral discharge.

The left eye only had been affected. It had manifested a violent infection of the conjunctiva, the lower half of which was chemosed with a watery, blood stained discharge. In the folds of the chemosed conjunctiva small dots of creamy pus had been visible. The cornea had been clear, the iris normal, the pupil only slightly enlarged and the active tension subnormal.

The patient had been put to bed and ice had been applied almost continually for the first few days. Atropine had

[1] Subsequent to the meeting a specimen was examined and a report of epithelioma was received. The patient died after laryngectomy.

been used. The swelling of the lids and conjunctiva had disappeared after about ten days. The cornea had become involved about the eighth day, the conjunctival folds had formed a ring around the limbus and it had been impossible to keep the pus clear. At the time of reporting the patient was in the second stage, the discharge was much less, the pain was less and the cornea was showing signs of clearing. There were no deep ulcers in the cornea, the infection seemed to have passed over it in the same way as it had infected the conjunctiva.

The right eye had been protected by a Buller's Shield and it had so far been kept free from infection.

Dr. MacDonald said that he was painting the inner surface of the lids with silver nitrate in a solution of one gramme to fifty cubic centimetres (ten grains to an ounce) once daily and douching the eye with boracic lotion every two hours night and day. The patient appeared to be rapidly improving. He had had slight fever for the first four days and since then his temperature had been normal. Dr. MacDonald asked for suggestions as to further treatment.

In answer to Dr. MacDonald's query Dr. Lockhart Gibson said that for many years he had used for *ophthalmia neonatorum* in children only quinine bisulphate in the strength of 6.5 grammes to a litre (three grains to a fluid ounce), at times in the strength of 8 grammes to a litre (four grains to a fluid ounce) with 0.6 gramme (ten grains) of boracic acid added. He had treated very many patients at the Hospital for Sick Children. By its free use every three hours night and day, provided the patient came under treatment before the cornea had suffered, he expected and obtained recovery without ulceration of the cornea. He could not call to mind an exception to this. If, on the other hand, corneal ulceration had already occurred, it was remarkable how well it behaved under quinine bisulphate treatment. He looked upon the drug as almost a specific for gonococcal conjunctivitis. He used the same treatment for adults, but had less experience of gonorrhœal conjunctivitis in adults and the results obtained, though good, were not so certain as in the case of children. He had described this treatment many years previously in the *Australasian Medical Gazette*.

NOMINATIONS AND ELECTIONS.

THE undermentioned has been nominated for election as a member of the New South Wales Branch of the British Medical Association:

Sandes, Stephen Graham, M.B., Ch.M., 1925 (Univ. Sydney), Grosvenor Road, Lindfield.

THE undermentioned has been elected a member of the South Australian Branch of the British Medical Association:

Piper, Cyril Thomas, M.B., B.S., 1924 (Univ. Adelaide), Adelaide.

Medical Societies.

THE MELBOURNE PÆDIATRIC SOCIETY.

A MEETING OF THE MELBOURNE PÆDIATRIC SOCIETY was held at the Children's Hospital, Melbourne, on May 13, 1925, the President, DR. LIONEL HOOD, in the chair.

Tuberculous Arthritis of the Knee.

DR. MERVYN STEWART presented a female patient, aged three and a half years, with a swelling of the right knee joint following a slight injury twelve months before. The swelling had varied in size from time to time and had caused very little pain. The patient had been treated by frequent application of plasters for ten months before attending hospital. On examination the joint was pale, uniformly enlarged and distinctly hotter than the opposite knee. There was flexion to 130° and the limb was wasted, but there was no clinical evidence of fluid in the joint. The child's general condition was excellent. The von Pirquet test had given a strong reaction to both human and bovine forms. The father had died of tuberculosis seventeen months previously.

Dr. Stewart said that he regarded the condition as a typical tuberculous arthritis of the knee joint and asked for information as to treatment by splinting and also whether Bier's hyperæmia would be of any value.

DR. H. DOUGLAS STEPHENS considered that the patient furnished a very good example of excellent recovery and advised a continuation of treatment by plasters; he would not allow any weight bearing. He did not favour treatment by hyperæmia.

MR. KENT HUGHES said that he would not allow the child to walk for at least three months. He also strongly advocated heliotherapy.

Cerebral Birth Injury.

DR. ARTHUR J. DAY showed a boy, aged ten years, who was deaf and dumb and presented some unusual nervous signs. At birth the child had weighed 4.8 kilograms (ten and threequarter pounds); the confinement had been a difficult one and the infant was eventually born while the mother was standing up; no medical man was in attendance. At the age of ten months the child had been noticed to be deaf and at two years he could climb and crawl, but could not sit up or walk without support. On examination the boy was seen to be fairly well developed; no abnormality could be detected clinically in the thorax or abdomen. The tendon reflexes were equal and active on both sides and the plantar responses flexor in type. No sensory disturbance could be elicited. The patient was unable to walk a straight line by himself, but could balance with the feet together or on one foot; he became unsteady if the eyes were closed. There was some incoordination in both the arms and the legs. The eyes could be moved freely in all directions above a horizontal plane, but could not follow objects below that plane. If he fixed an object with his eyes and the head were tilted backwards, the eyes could be moved below the horizontal in any direction.

Dr. Day regarded the condition as due to a lesion of the *corpora quadrigemina* probably the result of trauma at birth.

Pituitary Dystrophy.

DR. H. BOYD GRAHAM presented a male patient, aged ten and a half years, who had become progressively stout since the age of three years. He was a big, very stout, well developed boy with much fat deposited in normal situations, protuberant abdomen and absence of pubic hair. The child was also dull mentally. There was nothing in the family history to suggest syphilitic infection and the serum failed to react to the Wasssermann test. X-ray examination of the skull showed that the *sella turcica* was undoubtedly small and closed in. The basal metabolic rate was estimated at 22%. Dr. Graham regarded this patient's condition as typical of pituitary dystrophy.

Anterior Poliomyelitis.

Dr. Graham's second patient was a girl, aged three years, suffering from anterior poliomyelitis involving the right arm. An elder sister had also been affected with the same disease, in her case the right leg being slightly involved.

Dr. Graham showed the patient for an expression of opinion as to the degree of family susceptibility, splint treatment and mode of infection in anterior poliomyelitis.

DR. H. DOUGLAS STEPHENS then opened a discussion on poliomyelitis. He commenced by describing the different types of the disease as follows, according to the part of the nervous system affected:

(i.) Cerebral type: (*a*) affecting Betz cells of the cortex —upper motor neurone lesion. (*b*) Affecting basal ganglia—lower motor neurone lesion.

(ii.) Cerebellar or ataxic type.

(iii.) Bulbar type (involving the pons and medulla).
(iv.) Poliomyelitis of anterior cornua: (*a*) affecting brachial or lumbar enlargements of the cord. (*b*) Ascending or descending type.
(v.) Meningeal type.
(vi.) Polyneuritic type.
(vii.) Atypical or abortive type.

Dr. Stephens then remarked that he had observed an increase in the number of cases of pink disease or erythrœdema at the same time as an epidemic of poliomyelitis and he was inclined to regard the condition as a "poor relation" of poliomyelitis.

The incubation period was described by various authorities at from three to thirty-three days. Dr. Stephens referred to three patients with each of whom there was a definite history of contact and in all three the incubation period was eight days. A question often asked when one member of a family contracted poliomyelitis was: "How long should the other children be kept at home from school?" He considered that ten days was a sufficient period. The generally accepted quarantine period for patients was three weeks from the subsidence of the fever and symptoms. These were the times stipulated by the State Public Health Department. The onset might occur in one of several ways. Firstly, the child might go to bed well and wake up paralysed; secondly, there might be a period of pyrexia for two to four days passing directly on to the paralytic stage—this was by far the commonest mode of onset; thirdly, the child might pass through a febrile period and then be apparently quite well and later have a recurrence of fever and paralysis with it. This constituted the "dromedary" type described by Draper, but in his experience it had not been common in Australia. Finally, there was the type of onset with fever accompanied by drowsiness or delirium followed by weakness in the legs, prostration and then complete recovery without paralysis. In epidemic form the disease usually occurred in late autumn and especially after a dry summer, but in some countries outbreaks had occurred in the winter months. Discussing the symptomatology Dr. Stephens declared that many cases could not be detected in the early stages. The first symptoms were often a sudden onset with fever associated perhaps with rigors, tremors or convulsions and either delirium or drowsiness. The child was alert and yet lay still on account of the pain especially in the back of the neck; the skin was often very hyperæsthetic. He always regarded the combination of sudden onset with fever associated with pain in the back of the neck as very suspicious of an oncoming poliomyelitis. Sweating was often an early symptom, also retention of urine requiring catheterization, but the period of retention was usually very short. Most of the patients were constipated at the onset, very occasionally there was diarrhœa.

With regard to the mode of infection it appeared that the virus gained entrance to the body either by way of the naso-pharynx or by ingestion.

The disease was spread by (i.) a patient who had the disease, (ii.) a person who had had the disease and was a carrier, (iii.) a person who had never had the disease, but was a carrier. In his opinion merchandise, food stuffs and so forth might convey the disease. The prognosis could not be judged by the severity of the onset, but with a severe illness accompanied by severe nervous symptoms the outlook was always bad, especially with older children. If the respiratory muscles were involved, the prognosis became very grave.

In epidemics it was found that 25% recovered more or less completely, 4% to 44% died and the remainder suffered varying degrees of permanent paralysis.

Dealing with treatment, Dr. Stephens preferred to consider the three stages of the disease separately.

The acute stage consisted of the inflammatory period which lasted for several days to a few weeks. Sedatives should be given for the severe pain and absolute and complete rest insisted upon. Rest and time were the two most important factors in the treatment. Massage, electrical treatment and attempts at muscle re-education should not be used at this period and were in fact harmful at this stage. He also advocated the use of serum from convalescent patients; it should be given both intrathecally and intravenously.

The convalescent stage lasted approximately six months and during this time the residual paralysis was developing and the remainder disappearing. Here muscle re-education was of great value.

The chronic stage or stage of deformities covered a period of two or more years.

Dr. Reginald Webster discussed the pathology of poliomyelitis. He said that he conceived that a consideration of the pathology of the disease embraced: (i.) the virus, (ii.) mode of infection, (iii.) pathogenesis, (iv.) morbid anatomical changes, (v.) clinical pathology.

In regard to the virus very strong claims had been put forward by the Rockefeller School for the globoid bodies as the infecting agent in poliomyelitis. The evidence in favour of such rested on the demonstration in a glycerinized emulsion of the spinal cord of a virus which was capable of producing experimental poliomyelitis in monkeys. The clinical and anatomical changes in the experimental disease very closely paralleled those in the human subject. The fact that the filtrate obtained by passing the cord emulsion through a Berkfeld filter was also capable of infecting monkeys, indicated that the virus was a "filter passser." Morphologically the globoid bodies were extremely minute coccoid forms of size at the limit of visibility even with very powerful lenses and microscopes. They had been successfully cultivated by the Noguchi anaerobic technique and subcultures of the ninth generation had been potent in inducing experimental poliomyelitis. The globoid bodies had also been demonstrated directly in sections of affected nervous tissue. It has been argued by E. C. Rosenow that the so-called globoid bodies were merely aberrant forms assumed by a certain streptococcus when subjected to the conditions of growth obtaining where the globoid bodies were cultivated. The weight of evidence was without doubt in favour of the Rockefeller School.

The prevailing view of the mode of infection in poliomyelitis was that the ingress of the virus was effected *viâ* the nasal mucosa. By means of irrigations of the naso-pharynx of subjects of the disease and of healthy contacts, concentration of the washings *in vacuo* and intracerebral inoculation of residue into monkeys experimental poliomyelitis had been successfully communicated. With a virus adapted to the monkey mere painting of the nasal mucosa was sufficient to induce the disease. It had been abundantly proved in the investigation of the extensive epidemic in New York in 1916 that infection was spread by healthy carriers and subjects of the abortive type of the disease. One specific observation related to the demonstration of the virus in the naso-pharyngeal secretions of both the parents of a child stricken with poliomyelitis.

Dr. Webster said that he thought he could best convey an idea of the pathogenesis of poliomyelitis by drawing an analogy between that disease and cerebro-spinal meningitis. He emphasized that poliomyelitis was a systemic infection in the course of which paralysis might or might not occur. Cerebro-spinal meningitis furnished a parallel in that in the meningococcal infection the disease might run its course to recovery or death without any localization of the microorganisms in the meninges ever having been effected. The same held for poliomyelitis. In experimental poliomyelitis induced by the intravenous injection of the virus it had been determined by sacrificing animals at varying periods after the injection that the virus was withdrawn from the blood first by the spleen and bone marrow, secondly by the posterior root ganglia and finally by the central nervous tissue itself. In the spontaneous disease in human subjects the virus, having reached the upper respiratory mucous membrane, multiplied locally until a point was reached at which it invaded the blood stream. As long as the chorioid plexus remained undamaged the virus could not reach the subarachnoid space, but the chorioid plexus could not resist indefinitely accumulation of the invading organisms in the blood stream. Having reached the subarachnoid space, the virus circulated in the cerebro-spinal fluid and was conveyed

along the perivascular sheaths of the vessels of the cord and brain into the substance of the cerebro-spinal axis. The perivascular sheaths were really prolongations of the arachnoid along the course of the spinal vessels.

After mentioning the hyperplasia of the spleen and lymphatic glands, lymphoid tissue of the small intestine and the occurrence of general cloudy swelling as the expression of the systemic infection, Dr. Webster proceeded to demonstrate by means of a series of excellent lantern slides the morbid histology in the central nervous system. He intimated that he had prepared the photomicrographs from monkeys in which he had studied the experimental disease at the time of the small epidemic in Melbourne in 1918. The perivascular cell collarette, interstitial inflammatory foci and all degrees of damage in the ganglion cells of the anterior cornua were very well illustrated. An interesting slide related to the lesions observed in the posterior root ganglia; the changes in these tissues were in all respects comparable with those in the grey matter of the cord. Dr. Webster suggested that the ganglionic lesions provided the anatomical basis for the severe pain mentioned by Dr. Stephens as a feature in a proportion of the children affected with poliomyelitis. He demonstrated from the slides that the changes were by no means confined to the anterior horns of the grey matter and that the inflammatory reaction was to be seen in the posterior cornua, the white matter and in the meninges.

The only clinical pathology of practical importance was that relating to the cerebro-spinal fluid. It was perhaps unnecessary to say that the fluid as a rule remained clear, displayed a lymphocytosis, increase in globulin content and possibly separated a coagulum of inflammatory exudate on standing. The examination of the fluid should include a cell count as a matter of routine. In that stage of the disease in which the child was vaguely ill and exhibited no clinical signs of affections of the nervous tissues or meninges, it was not likely that the number of cells would be materially increased or that the fluid in its general characters would provide positive help in diagnosis. The highest cell counts were to be observed when lumbar puncture was performed about twelve to eighteen hours after the invasion of the nervous system. The clinical signs of such invasion consisted of severe headache, "meningism" or paralysis. Cell counts at this time might total as many as 2,500 cells per cubic millimetre and in general it had been found that a high count seriously affected the prognosis. When the lumbar puncture was not performed until some days had elapsed after the invasion of the central nervous system, the count of cells in the cerebro-spinal fluid lost its prognostic value, although it might still be of use in diagnosis. These points were illustrated in the final slide in which were tabulated a number of observations on the cerebro-spinal fluid.

Mr. Kent Hughes emphasized the fact that the disease was not simply an affection of the muscle alone. He strongly advocated treatment by rest, but said that the rest must be absolutely complete. To insure this the patient should be placed in a plaster bed. Some of the paralysed muscles would never recover in spite of all treatment. Mr. Kent Hughes also remarked that most of the patients he had seen suffering from poliomyelitis had enlarged tonsils and adenoids and he quoted a large series of children examined during an American epidemic who had previously had their tonsils and adenoids removed; none of these patients had contracted the disease.

Dr. F. G. Morgan quoted the results of using serum from convalescents in the large epidemics in America. He advocated the combined intrathecal and intravenous modes of administration. If more than thirty cubic centimetres of the serum could be given at a time, the results were much better.

Dr. Jean Macnamara said that she had been investigating the present small epidemic on behalf of the Melbourne City Council. She outlined the preparations which were being made for the collection and storage of serum from convalescent patients for therapeutic use. The Walter and Eliza Hall Research Institute at the Melbourne Hospital and the Commonwealth Serum Laboratories were cooperating in this work. Dr. Macnamara also showed a map which demonstrated clearly the wide distribution of the cases already notified to the Health Department. She also quoted information from New Zealand as to experience gained in the prevailing epidemic there and as a result of which serum treatment was strongly advocated.

Dr. Rupert M. Downes, C.M.G., also emphasized the view that the disease was a general infection causing a localized paralysis. He strongly supported the use of serum in the early acute stage and muscle re-education in the later stages of convalescence.

Dr. Douglas Galbraith drew attention to an association of "shingles" and *herpes labialis* with poliomyelitis and asked whether it might be more than mere coincidence.

Dr. W. Spalding Laurie said that he had observed an association between herpes, varicella and infantile paralysis. He doubted if as many as 25% of patients made a complete recovery and he had also seen a child suffering from poliomyelitis who had had tonsils and adenoids removed previously. Dr. Laurie had also noticed a number of patients with severe scoliosis as a late after result.

Dr. F. Kingsley Norris remarked on the extraordinarily irregular manner in which the disease affected members of a family. He had seen one boy with a febrile cold and five or six days later the brother had been severely affected with poliomyelitis. The majority of his cases had been of the "dromedary type." Restlessness, constipation and asymmetry of the paralysis appeared to be outstanding features.

Dr. Henry McLorinan stated that the Fairfield Hospital was prepared to accept a large number of patients in the event of a severe epidemic. He had seen a patient treated with absolute rest followed by muscle re-education who had recovered wonderfully after twelve months' time.

Dr. R. R. Wettenhall stated that *herpes zoster* was not due to circulating toxins affecting the posterior root ganglia, but rather an infection travelling from the skin *viâ* the nerves to the ganglia in a manner similar to the toxin of tetanus.

Dr. Vera Scantlebury said that she had recently seen a child who had been ill for three days with signs of a general systemic infection, but showed no immediate paralysis. Three weeks later after walking a mile the child had limped and later was seen to be paralysed. After being put in splints for nine weeks he had recovered completely.

Dr. H. D. Stephens had also seen a boy with long delayed paralysis following three weeks after an illness which had been regarded as scarlet fever, but he was rather doubtful if this were a true case of infantile paralysis. He also pointed out that recovery of "bulk of muscle" was rare, but recovery of "function of the muscle" was very frequent.

Before concluding the meeting, Dr. Lionel Hood stated that from the discussion which had taken place the following appeared to him to be the most important points which had been raised: (i.) the importance of abortive or unrecognized cases as the means of spread in an epidemic, (ii.) isolation of all cases, (iii.) the efficacy of serum treatment.

THE ALFRED HOSPITAL CLINICAL SOCIETY.

A Meeting of the Alfred Hospital Clinical Society was held on May 26, 1925, at the Alfred Hospital, Mr. Fay Maclure, O.B.E., the President, in the Chair.

Keloid of Lower Extremity.

Dr. J. R. Love showed a boy, aged eleven years, who at the age of two years had sustained a severe burn to the back of the right leg and thigh. The area affected had

healed but was covered by a keloid-like scar which showed a tendency to contract, causing flexion at the knee joint; this tendency was easily overcome. The scar had broken down over the poplitial fossa and although it had been healed on several occasions, refused to remain intact. Dr. Love asked for suggestions as to treatment. He pointed out that the extensive scarring negatived the possibility of using a pedicle graft.

Dr. A. J. Trinca suggested that a pedicle graft from the opposite thigh might be used after dissecting away the scar tissue.

Dr. H. C. Colville said that he had an almost identical patient at present in the hospital whom he had operated on by excising the scar. He proposed shortly to apply Thiersch grafts.

Perthes's Disease.

Dr. H. C. Colville showed a boy, aged four years. He had been quite well up till the age of eleven months, when he had had an acute febrile illness after which it was noticed that he dragged his right leg on crawling. On commencing to walk he had limped on the right leg. Since then he had walked and run quite well, but always with a slight limp. There was a family history of tuberculosis, whilst the boy's blood yielded a feeble partial reaction to the Wassermann test.

On examination wasting of the right thigh was found with crepitus on some movements of the hip joint but no limitation of mobility. A skiagram showed that the neck of the femur was much thickened and that there was much absorption of the opposing pressure surfaces of the femoral head and acetabulum. Mr. Colville regarded this as an example of Perthes's disease and thought that the febrile onset was suggestive that it had an infective causative basis.

Mr. J. Brown thought that the condition was not Perthes's disease because of the early age. It was probably an infective arthritis, possibly pneumococcal.

Tuberculous Peritonitis.

Mr. Colville then showed two patients suffering from tuberculous peritonitis. One, a boy aged five years, had been shown at a previous meeting as possibly suffering from Henoch's purpura because of a history of pain in the abdomen, vomiting and the passage of blood. The onset of symptoms had been quite sudden.

Distension of the abdomen had followed and after about two months with indefinite symptoms he had developed signs of acute obstruction. At operation many recent adhesions and numerous enlarged lymphatic glands throughout the mesentry had been found. A narrow stricture in the lower part of the ileum had necessitated a resection of bowel. Recovery had been uneventful and the boy was rapidly improving in general health.

The specimen of bowel removed was shown. The structure scarcely admitted a crow quill.

The second patient was a girl, aged eight years. She had been admitted in May, 1925, with a history of abdominal pain for two days, vomiting and obstinate constipation. Previously she had been well. A diagnosis of acute appendicitis had been made. At operation a segment of the lower part of the ileum had been found strangled by a band attached to the mesentery. The loop had been gangrenous and was resected. Numerous enlarged lymphatic glands had been found, one had ruptured and discharged caseous matter. Recovery had so far been uneventful.

Ganglion of the Hand.

Dr. J. Gray showed a male, aged thirty-three years, who two years before had noted a swelling of the right palm and wrist which gradually increased in magnitude and had recently become painful and interfered with movement. On examination a typical compound palmar ganglion had been found. At operation in January, 1923, after an unsuccessful attempt to aspirate the contents of the ganglion, blood stained fluid and many melon seed bodies had been evacuated and the wound closed. A small piece of the synovial membrane had been excised and reported on by the pathologist as being the seat of chronic tuberculosis. Subsequently a course of tuberculin had been given and later injections of "Acriflavine" into the sac. Dr. Gray asked for suggestions as to treatment. He pointed out that the man was dependent for his livelihood on his hands. Fixation of one hand was therefore a serious matter.

Mr. R. C. Brown suggested that the ganglion be dissected out as completely as possible and splints applied.

Mr. Hugh Trumble, M.C., agreed as to the necessity for immobilization but deprecated opening a tuberculous focus. He advocated treatment along the lines laid down by Calot in his "Indispensable Orthopædics" by aspiration and injections.

Facial Paralysis.

Dr. J. E. Gillespie showed an infant aged eleven months, who was suffering from facial paralysis. The mother had suffered severely from eclampsia. High application of forceps had been made when full dilatation of the *os* had occurred. The child had presented at birth a facial paralysis and torticollis both on the left side. The torticollis had cleared up after six months but very little, if any, improvement was to be noted in the face. The affected muscles give no reaction to faradic stimulation.

Dr. J. F. Mackeddie said that the origin of the trouble was either traumatic or congenital. It was just possibly due to a congenital deficiency of the nucleus of the nerve. He felt that in either case the prognosis was lamentably bad.

Mitral Stenosis.

Dr. F. Trinca showed a patient suffering from mitral stenosis of non-rheumatic origin. The patient was a young male adult who presented rhachitic defects, mitral stenosis visceroptosis and neurasthenia. Dr. Trinca said that this syndrome was constantly recurring among those who applied for treatment at the Alfred Hospital. There was no history of any of the diseases usually held to be provocative of heart lesion. Vitamin deficiency appeared to lay an insecure foundation not only in the bones but in every vital system. Such sequelæ in middle life naturally offered great resistance to treatment which, of course, should have been prophylactically used in early infancy.

There was an inelasticity of the cardiac muscle with relative mitral stenosis and there were also visceroptosis and analogous defects in the nervous and endocrine systems. Various types of an interrelated hyperthyreoidism and neurasthenia presented themselves and in such a condition no doubt lay the explanation of the effort syndrome and of the large percentage of rejects in a conscript army. The stenosis was non-progressive and therefore, offered a good prognosis from the insurance point of view.

Multiple Neuritis.

Dr. J. F. Mackeddie showed a patient who was suffering from multiple neuritis. The case was of interest on several counts. When first admitted the patient had suffered from general wasting and weakness of the pelvic and shoulder girdles. This had in great part disappeared and the loss of power was mainly peripheral. One would have supposed the condition at first to be one of progressive muscular atrophy except for two features, the one that the patient had been at work three weeks before admission the other that the weakness was out of proportion to the wasting.

The deep sensation was still disturbed. Several reports of cases in which the condition was like Landry's paralysis, had been published and others of a peripheral type of encephalitis. While the patient was undergoing convalescence contracture of the muscles about the knees had been caused through the patient sitting overlong in a chair. Dr. Mackeddie also demonstrated an elevated pulley apparatus for assisting in the recovery of these patients.

Books Received.

SLIT-LAMP MICROSCOPY OF THE LIVING EYE, by Dr. F. Ed. Koby. Translated by Charles Goulden, O.B.E., F.R.C.S., and Clara Lomas Harris, M.B.; 1925. London: J. and A. Churchill. Demy 8vo., pp. 221, with illustrations. Price: 10s. 6d. net.

SAVE AUSTRALIA: A PLEA FOR THE RIGHT USE OF OUR FLORA AND FAUNA, by various writers. Edited by Sir James Barrett, K.B.E., C.B., C.M.G., M.D.; 1925. Melbourne: Macmillan and Company, Limited. Sydney: Angus and Robertson, Limited. Crown 8vo., pp. 231, with illustrations. Price: 8s. 6d. net.

TEXT-BOOK OF SURGICAL PATHOLOGY, by C. Jennings Marshall, M.D., M.S. (London), F.R.C.S. (England), and Alfred Piney, M.D., Ch.B. (Birmingham), M.R.C.P., M.R.C.S.; 1925. London: Edward Arnold and Company. Demy 8vo., pp. 469, with illustrations. Price: 21s. net.

ARTERIOSCLEROSIS: A SUMMARY VIEW, by the late Right Honourable Sir T. Clifford Allbutt, P.C., K.C.B., M.A., M.D.; 1925. London: Macmillan and Company, Limited. Crown 8vo., pp. 108. Price: 5s. net.

SOCIAL PATHOLOGY: Issued by the United States Public Health Service; Volume I., No. 6; 1925. Washington: Treasury Department. Crown 4to., pp. 61.

CHRONIC DISEASE, A WORKING HYPOTHESIS, by E. Bach, M.B., B.S., D.P.H. and C. E. Wheeler, M.D., B.S., B.Sc. 1925. London: H. K. Lewis & Company Limited. Crown 8vo., pp. 153. Price: 7s. 6d. net.

TISSUE CULTURE: STUDIES IN EXPERIMENTAL MORPHOLOGY AND GENERAL PHYSIOLOGY OF TISSUE CELLS IN VITRO, by Albert Fischer, M.D., with an introduction by Alexis Carrel, L.B., B.S., M.D., Sc.D. 1925. London: William Heinemann (Medical Books) Limited. Crown 4to., pp. 310 with illustrations and one coloured plate. Price: 21s. net.

A SHORT HISTORY OF ANATOMY, by Richard H. Hunter, M.D., 1925. London: John Bale, Sons & Danielsson, Limited. Crown 4to., pp. 51. Price: 2s. net.

Medical Appointments.

Dr. Robert Fowler (B.M.A.) has been appointed Certifying Medical Practitioner at Melbourne.

* * * *

Dr. George Alan Waterhouse (B.M.A.) has been appointed Public Vaccinator at Bright, Victoria.

* * * *

Dr. Bronte Smeaton (B.M.A.) has been appointed an Honorary Surgeon at the Adelaide Hospital, Adelaide.

* * * *

Dr. Arthur Douglas Reid (B.M.A.) has been appointed a Resident Medical Officer at the Adelaide Hospital, Adelaide.

* * * *

Dr. Edgar Ashley Falkner (B.M.A.) and Dr. David Horn, Government Nominees, and Dr. Reginald Freshney (B.M.A.), Subscribers' Nominee, have been appointed Trustees of the Grammar School at Toowoomba, Queensland.

* * * *

Dr. Keith H. Tepper has been appointed District Medical Officer and Public Vaccinator at Kondinin, Western Australia.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xvi.

ROYAL HOSPITAL FOR WOMEN, PADDINGTON, SYDNEY: Junior Resident Medical Officer.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Manchester United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phœnix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Honorary Secretary, 12, North Terrace, Adelaide.	Contract Practice Appointments at Renmark. Contract Practice Appointments in South Australia.
WESTERN AUSTRALIAN: Honorary Secretary, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

AUG. 18.—Tasmanian Branch, B.M.A.: Council.
AUG. 18.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
AUG. 18.—Illawarra Suburbs Medical Association, New South Wales.
AUG. 19.—Western Australian Branch, B.M.A.: Branch.
AUG. 25.—New South Wales Branch, B.M.A.: Medical Politics Committee: Organization and Science Committee.
AUG. 27.—New South Wales Branch, B.M.A.: Branch.
AUG. 27.—South Australian Branch, B.M.A.: Branch.
AUG. 28.—Queensland Branch, B.M.A.: Council.
AUG. 31.—Victorian Branch, B.M.A.: Council.
SEP. 1.—Tasmanian Branch, B.M.A.: Council.
SEP. 2.—Victorian Branch, B.M.A.: Branch.
SEP. 2.—Section of Obstetrics and Gynæcology, New South Wales.
SEP. 4.—Queensland Branch, B.M.A.: Branch.
SEP. 8.—Tasmanian Branch, B.M.A.: Branch.
SEP. 8.—New South Wales Branch, B.M.A.: Ethics Committee.
SEP. 9.—New South Wales Branch, B.M.A.: Nomination of Candidates for Federal Committee.
SEP. 10.—Victorian Branch, B.M.A.: Council.
SEP. 10.—South Australian Branch, B.M.A.: Council.

Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

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